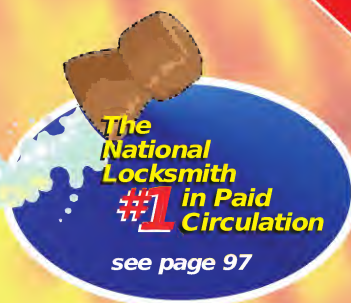


# The National Locksmith®



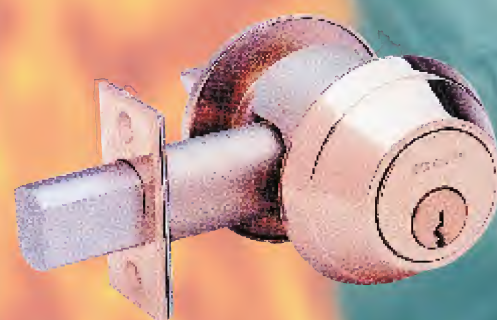
**CODES**  
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page 93

\$5.00

June 1996  
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Here are the Top 5...  
for the rest of the best see page 54!





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Presenting the second annual Reader's Choice Awards and the products you feel deserve recognition. Seventeen different product categories ranging from Access Control to Window Lock manufacturers have been acknowledged with this most prestigious award designation.



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# Commentary

**W**ell gang, we've all been waiting a long time for a new book by Dave McOmie, but as they say, good things are worth waiting for! Dave's brand new book is called *Dave McOmie's Penetration Party*, and it is available now.

This latest offering contains a great deal of information, photos, drill points, and a new slant on safe work. Instead of simply giving you drill points, the book goes into detail on service and opening procedures. Dave even shows you the boo-boos made on these safes and tells you how to avoid problems. For more info on this book, please turn to page 63.



**Marc Goldberg**  
Editor/Publisher

**M**y staff and I have just returned from the annual meeting of the National Locksmith Suppliers Association (NLSA) which was held in Phoenix. Aside from the welcome change of temperature—Chicago has still been COLD!—it was one of the more interesting NLSA meetings I can recall.

One notable point is that a large number of manufacturers have lined up impressive new product introductions to be announced in this second half of 1996. So keep your eyes tuned to *The National Locksmith* and you'll be reading all about it soon!

**O**ne item of importance was brought to my attention by Howard Johnsen, President of Hans Johnsen Co. of Dallas TX. In its infinite wisdom the Texas legislature has passed a licensing law which would seem to require an individual to hold an alarm installer license to install so much as a mechanical push button lock under some circumstances.

Specifically, Howard asked the state licensing department if a locksmith (without an alarm installer license) could install a mechanical push button lock on his facility so as to limit access to employees only. Howard wrote the state specifically to force them to define whether this new law affects locksmiths as much as it appeared on the surface.

Sure enough, Texas wrote back to Howard and told him the push button lock would "involve limiting access as part of an alarm system...and will require you to obtain a license." This is appalling news and you will read more about it here soon.

In this month's issue Dee Bucha writes an opinion piece on why she doesn't believe in locksmith licensing. I defend Dee's right to an opinion different than mine. But I think this is simply one more example of why locksmith licensing is so necessary. It may be the only way we can protect our rights. What do you think?

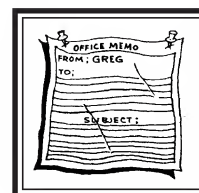
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Receive locksmith info by E-Mail.  
Write us at: NATLOCK@aol.com

*Marc Goldberg*

**A new  
McOmie  
book  
is born!**





# Mango's Message



Greg Mango  
Managing Editor

## Lessons Learned In Sunday School

You know you're getting old when the weekend comes and your big plans for Friday or Saturday night is visiting the local book store. I hate to admit it, but one of my favorite hang-outs, is the local book store, (What's that saying about me?) especially the "Half-Price Book Store." My wife, Rachel, hates it. Not because she doesn't like books; it's just not her idea of a place to go for a weekend date. (She made me promise to take her someplace different next weekend. I agreed. She doesn't know it yet, but we're going to the library!) I can spend hours blissfully flipping through the tethered pages of used books, enamored by the wealth of information.

On a recent visit, I picked up a book by Robert Fulghum, titled: "All I Really Need To Know I Learned In Kindergarten." It was a best seller about ten years ago. The synopsis on the back cover read as follows:

*Most of what I really need to know about how to live and what to do and how to be, I learned in kindergarten. Wisdom was not at the top of the graduate school mountain, but there in the sand-pile at Sunday School. These are the things I learned: Share everything; Play fair; Don't hit people; Put things back where you found them; Clean up your own mess; Don't take things that aren't yours; Say you're sorry when you hurt somebody; Wash your hands before you eat; Flush; Warm cookies and milk are good for you; Live a balanced life learn some and think some and draw and paint and sing and dance and play and work every day, some; Take a nap every afternoon; When you go out into the world, watch out for traffic, hold hands, and stick together; Be aware of wonder.*

Many psychologists agree that our basic personality is formed by age seven. While this may be true, that does not mean it needs to stop developing at age seven. Regrettably for some however, it does.

Recently I was reminded of a lesson I learned in my early years of life. One that is important for all, but especially for those who hold the public trust in their hands.

My wife teaches Sunday School classes to a group of impressionable, curious, bright-eyed five and six-year-olds. The topic of one of her recent classes was on "Righteousness," which one hopes will add another wrinkle to her students' fragile, malleable minds. I know it did mine.

She has a wonderful way of conveying life's lessons in a story. The story of Righteousness is a simple one which harbors a powerful message. Quite possibly one of the most profound messages these children will ever learn. Quite possibly one of the most important messages anyone could ever learn. I do not possess the ability to convey the story as tenderly, passionately or descriptively as she did to her class, but I hope the message will ring true.

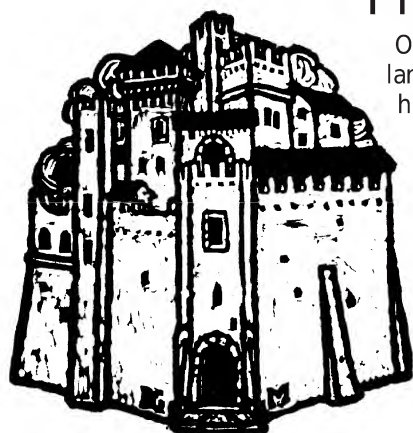
## "The Story Of Ping"

Once upon a time, long, long ago, there lived a boy named Ping. The emperor of the land where Ping lived was getting old and needed to find a person worthy of assuming his position as leader of the Papaya people. This could be no ordinary person, however.

The next person groomed to assume the throne, needed to possess very special characteristics.

One morning the emperor called all the young people of the land to his palace. As he stood before the assembled mass of people, he announced that he was looking for someone to replace him, assuming the responsibilities as ruler of his people. He would choose the new emperor from one of those that gathered before him.

To help make this most delicate and important decision, the emperor gave each child a seed, and told them all to bring back the product of that seed in one year. At that time, he would choose the person to become the next emperor of the land.



Continued on page 10



**Continued from page 8**



Each child tenderly cradled the seed in their nimble little hands, and they all rushed home as fast as they could to plant it in a pot.

Ping carefully planted his seed as well. In the coming months, Ping watered, fertilized and exposed the potted seed to as much sunlight as he could. Ping took meticulous care of his seed, giving it great love and attention, but the seed would not grow.

Ping was beginning to get concerned that the seed would never grow, so he went to his father for advice. His father told him, "Do the best you can and that will be enough." Ping took his father's words to heart and continued to meticulously care for his planted seed, but to no avail. The seed would not sprout.



The year passed quickly and the day soon arrived when all the children would gather back at the palace to proudly present the emperor with the fruits of their labor. Ping was not going to go to the palace that day. He was much too humiliated and embarrassed to present the emperor with a pot of soil, but his father encouraged him to go by saying, "You did the best you could, that will be enough."

As Ping reluctantly carried his pot of soil to the palace, many of his friends stopped him along the way and said, "You're not going to present the emperor with a pot of soil are you? Why don't you go buy a plant? It's better than bringing nothing!"

Ping was tempted to take the advice of his friends, after all, an empty planter was a reflection of his ability, but his father's words of wisdom rang in his head.



Upon arrival at the palace grounds, each child assembled before the emperor, one by one displaying the wonderful growth the seed had produced. Some had beautiful lush plants, others had wonderfully colored flowers. All Ping had was a pot of soil and a sproutless seed. Of the thousands of children in attendance, Ping was the only one without a plant or flower.

Ping sheepishly huddled at the very end of the line hoping not to be seen, reluctant to approach the emperor when his turn had come. As he did, Ping could hear the crowd of children laughing and snickering behind him as he approached the emperor with his empty planter. The emperor looked down at the fragile soiled hands holding the pot and asked Ping why there was no plant? Ping tucked his chin to his chest as painful tears streamed down his cheeks, "I don't know why," Ping replied. "I watered the seed, made sure it got plenty of sunlight and cared for it dearly, but it would not grow. I'm sorry I have failed you, but I did the best I could!"

The emperor placed his broad hand upon Ping's shoulder for a moment, then directed him back to his place among the other children.

A few minutes later, the emperor announced that he had made his decision for the next individual to succeed him. A sense of stirring excitement filled the air as all the children waited eagerly for their name to be called.

When the emperor called Ping as the next to grace the throne, a hushed silence fell over the crowd. A sense of disbelief and puzzlement crossed everyone's face, even Ping's. The emperor must have made a terrible mistake! How could he possibly choose Ping?

As Ping approached the emperor to assume his responsibilities, he asked, "Why would you choose me to lead our people when I could not even grow a plant?"

"Because you were righteous and honorable," the emperor replied, "and only he who is, is worthy of such an honor."

"But how do you know others were not more righteous and honorable than I?" Ping questioned.

"Because all the seeds I had distributed a year ago, had first been boiled" the emperor answered. "As I'm sure you know, a seed that has been boiled, will not grow. You did not fail me, the children of my people have failed me. Even though everyone's plant or flower may appear taller than yours, you will forever be taller than them all!"...

*The Ping's of the world are becoming an endangered species, much like the Bald Eagle. It's very rare to encounter one, but when you do, it leaves an eternal lasting impression. One can only hope that the impression you make on all who know you, is one like Ping's!*





J U N E 1 9 9 6

# Letters

*The National Locksmith* is interested in your view. We do reserve the right to edit for clarity and length.

## None Better

I just received my April issue of *The National Locksmith* today and I like the new look. Clean as a whistle. Neat. First rate. RR Donnelley, who is the best printer in the business, has done another first rate job.

Just happened to be looking over the great writers *The National Locksmith* has as well. All heavyweights. Guys like Greg Mango, Jake Jakubowski, Bill Reed, Dave McOmie, Dale Libby etc., etc. These guys are the best in the business.

So, if you want the best security magazine on this planet, read *The National Locksmith*. The best in the business.

*Bill Paroby  
New Jersey*

## Tragic Pain Eased By Locksmith

I enjoy my job with All-Lock almost every minute of every day. I have bad days and good days. The last few days have been especially better than usual.

A very tragic incident ironically presented the opportunity for me to feel very good about the locksmith business.

On February 5, 1996 a very strong tornado ripped through Dallas County, Alabama which is my home County. A mother and father in one family was killed less than 10 miles from my home.

The daughter of the victims is a friend of my daughter.

The family was cleaning up and trying to locate their belongings on the morning after and found that the keys for their parents two vehicles were not to be found.

My daughter called my wife and she called me at the plant for help.

Not having the tools or expertise to help, I had my wife call Dee's Locksmith & Alarm service in Selma. William D. Ellis (Billy D.) not only responded and took care of the missing keys problem, but he did it as good-will with no charge.

This is a tribute to a good neighbor that not only did not take advantage of the situation, but reacted as a good Samaritan.

I thank Billy for this good feeling I have about the people in our business.

*Russell Alsbrook  
National Sales Manager  
All-Lock Co., Inc.*

## Have You Called A Service Person Lately

Guy's, I know you don't want anyone to set your rates and you'll darn well charge what you please. I guess some of you have legitimate reasons for working so cheaply, but have any of you called another



service person to your home lately? I called a heating and air conditioning man to my house the other day and the service call was \$46.00. All he did was look at my furnace, advise me to replace it, and hand me the bill. Total time spent was less than ten minutes.

The next day I was told that my satellite needed to be tilted, it would cost me \$38.00 for five minutes of a technician's time. Then I called an electrician to give me an estimate for installing a fuse panel on the exterior wall of my house, and to run twenty five feet of wire to my soon to be purchased air-conditioner. The lowest bid was \$800.00.

I called the gas company and was told that to run three feet of line from my meter straight to my furnace would cost \$150.00.

Some things are relevant and some are not, but when you compare what other people are charging for similar services to what most of us are, I think it is a shame. All I ask you to do is check around your area and see what you find. In my opinion as a locksmith, your rates should be not

**The National Locksmith**  
1533 Burgundy Parkway  
Streamwood, IL 60107  
Attn: Editor



**Continued from page 12**

only for your service, but for your integrity, and you should never give either one away.

*R. Henderson  
E-Mail*

**Instant Gratification**

I received your new Insta Card program recently, GREAT! This is the type of computer program more companies should be producing. The card is so easy to calibrate. Some may think the price is high, but when you consider the cost of new cards, \$179.95, is cheap for an unlimited supply of new cards. Keep up the good work.

*Rick Rogers  
Colorado*

**Charge What You're Worth**

I charge a \$45 service call for every job. Years ago, I used to waive the service call for customers if I was in the area, but the problem I ran into was that some customers would request that I come and service their locks when I was, "In the area." I wound up not being able to charge a service call to some customers at all. Now, I charge the \$45 even if I'm right around the corner when I get the call. I do this to remain consistent for the customer.

What other locksmiths charge is of no concern to me. I know what I'm worth, and so do my customers. New customers sometimes feel that my prices are high, but it is so gratifying when they call me back after using someone else who was less expensive. After that, they usually do not even ask me how much the job will cost.

*TinkerLock  
E-Mail*

**Public Awareness Needed**

Most of us agree that those who will make a key to any lock for \$10

are demeaning the trade and the industry. But then again, most of these type of people are not the ones with thousands of dollars worth of equipment in the service truck. That doesn't matter to the cost conscious customer, but it does to the quality conscious customers.

The main problem we have to solve as an industry is public education as to what we do, and the training necessary to do our jobs. Upon hearing that I am a locksmith, a lady said "So you make keys and open cars?" I replied that was over simplified, but yes, I do that as well. She thought that was a cute way to make a living. I don't think it's very cute when I'm pulling a V.A.T.S. column with an air bag at 2:00 a.m. because the keys are at the bottom of the lake. It wasn't cute for the customer because she thought she would have to wait until Monday to get another "chip" key from the dealer.

I have never been a big proponent for associations, but I believe they are the only way we can get the respect we deserve. The members have to put forth the effort because no respect is given unearned. Just a thought.

*Wallace Mink  
E-Mail*

**Maybe A Name Change Is Needed**

Locksmith is an honorable name to those who understand it and respect it, but does it have the impact that we would hope for? How often does someone say "You can do that?," when referring to a service that you offer. Or how about those jobs you have lost because you are thought of as "Just a locksmith!"

In the military you are given striking titles to enhance your self image, for example; Mess Specialist (Cook), Supply Management Specialist (Storekeeper.) They sound pretty good for jobs that would otherwise be looked upon with little sparkle.

After attending a local Rotary meeting and discussing a break-in that had occurred with one of the members. I suggested a CCTV system be installed, when someone stepped in and said "Locksmiths do that? I thought they just cut keys !" After correcting them I scheduled two jobs. I think it's time to rethink

the position of the term locksmith to a more appealing title such as Security Hardware Technician. It certainly adds flavor and covers a broad spectrum of services you provide. It also helps when adding to your bottom line collection.

*Tom Lynch  
New York*

**A Passionate Plea Of Support**

Now-a-days, we see more and more beginner locksmiths starting out by opening small stores, or maybe working out of a mobile van. Few realize what the overall cost will be to them personally and to their family in general.

The cost of tools, parts, truck expenses etc., all take their toll on the bottom line, making it difficult to make a decent living for a family, but what can he do?

The hardware stores sell locks, keys and even do rekeying work. The police open cars for the public, the distributors either charge us too much or don't deliver the part on time, or do locksmith jobs themselves. All are taking a piece of the action and a piece of our hearts.

We wait by the phone for what? To have someone call us on a price and then go somewhere else, or to listen to countless salesmen trying to sell us insurance, cellular phones, stocks, etc. We throw up our hands in anger and disgust, but who is listening?

We give honor to those in our industry who have made it, who are contributing to the profession by teaching, writing, working for the various associations and in general just doing good deeds. But again, they are in the minority. There are thousands of us out here who are not making it, who wish they could contribute more to their associations, but there is nothing to give.

The on-going talk about licensing the locksmiths in many of the states and the possible high accompanying fee, will no doubt drive many good mobile locksmiths out of business. Now, I would like to hear from some of the so called well meaning groups sponsoring the legislation, to tell me how this will be a good thing? For whom? Only those locksmith companies that are already doing well!

*Bob Galcik  
Pennsylvania*

**TNL**

**MOVING?**

Please notify us six weeks prior to your move. Send your name, old address and new address to:  
The National Locksmith  
Address Change Dept.  
1533 Burgundy Pkwy  
Streamwood, IL 60107.



# KEYMARK

by **Jake Jakubowski**

*Long known for its high security locks, Medeco is debuting a new line of interchangeable core and conventional non high security lock cylinders.*

It's not often this old boy gets the chance to write about a new product that is unique, exciting, and that I believe is a potential profit powerhouse for locksmiths. But, after a visit to the Medeco factory in Salem, Virginia not long ago, that's exactly the opportunity that came my way.

From Medeco's earliest cylinders and padlocks through the development of their Biaxial keyways, the Maxum deadbolt and the Patriot marketing concept, Medeco has taken an aggressive leadership roll in both the high-security and key control aspects of the locksmithing industry. At the same time, Medeco has not been shy about quickly and vigorously defending the security of their keyways and products from infringement when the need arose.

With the introduction of their KeyMark family of lock cylinders, Medeco is continuing a positive industry leadership roll by providing locksmiths and their customers with another level of marketable, high quality lock cylinders. Although the KeyMark line does not carry UL's 437 designation for high-security locks, KeyMark cylinders do offer unparalleled key control under Medeco's utility patent (U. S. Patent #5,176,015) and a great deal of pick resistance because of KeyMark's patented Security Leg.

"And, what" you ask, "is a KeyMark line?" I'm glad you asked!

First, KeyMark is *not* a new wave, knock-your-socks-off, line of high



**1. The Medeco KeyMark interchangeable core cylinder.**

security lock cylinders designed to supersede, replace or compete with Medeco's Biaxial cylinders. KeyMark is *not* an attempt by Medeco to promote an "economy" line of high security cylinders. The KeyMark line of cylinders does *not* utilize side bars, "lift and rotate pins" or any special drill resistant qualities that are the hallmark of Medeco High Security Cylinders.

KeyMark cylinders are a line of cylinders manufactured by Medeco, that will allow locksmiths to offer a realistically priced, patent protected, key control option to their customers

who don't necessarily need "high-security" but want "something better" than the best some manufacturers currently offer.

**K**eyMark's unique family of Medeco made cylinders will provide locksmiths an opportunity to take advantage of a ready-made market which already has a base of millions of retrofittable cylinders in place. KeyMark accomplishes that by offering Medeco dealers a high quality, key control product option which locksmiths across the country can sell to thousands of businesses and institutions that would



# BY MEDECO

benefit from retrofitting their existing locks with KeyMark cylinders.

**A**t the same time, locksmiths can assure those customers that the keys issued for the KeyMark cylinders, (with its patented Security Leg) are truly protected from unauthorized duplication under the patent laws of the United States, and by Medeco's willingness to respond to, and remedy, any actual or perceived violation to that protection.

KeyMark is a family of inter-

changeable core cylinders that can retrofit Best, Falcon, Arrow, Peaks and similar types of removable core locking devices (*Photograph 1.*) That's right. KeyMark cylinders will retrofit any (six or seven pin) Best/ Falcon-style interchangeable core housing. And, KeyMark cylinders are "pinned" like any of the above mentioned I-Cores (Total Pin Stack "23") even to the extent that if you don't want to use the KeyMark pinning kit, one can use Best/ Falcon or similar after-market pins, springs and caps.

KeyMark is also a family of cylinders that include single shearline cylinders capable of retrofitting cylinder cavities for conventional non-interchangeable core locks. That is, KeyMark cylinders are being produced that are capable of retrofitting standard key-in-knob, and key-in-lever cylinders for leading manufacturers like Schlage, Arrow, Sargent, Corbin, Russwin and others with the same patented Security Leg keyway and key. (*Photograph 2.*)

**B**y utilizing KeyMark's interchangeable and non-interchangeable core cylinders, locksmiths now have the ability to not only interface with existing Best/ Falcon type locks, but to offer multiple hardware options (I-Core on exterior doors, non-I-Core on interior doors) to prospective customers without requiring the customer to commit to an investment, if any, in new hardware to accommodate the change over to KeyMark. If the potential customer currently has Best/ Falcon, the only investment would be for KeyMark cores, keys and pinning charges.

If the customer has Schlage, Arrow or other compatible hardware on their



The  
Innovation  
You Expect,  
with the  
Flexibility  
You Need!

[Click here for more information](#)



**2. KeyMark is also available in single shearline cylinders capable of retrofitting cylinder cavities for conventional non-interchangeable core locks.**

doors and wants to upgrade to a secure, fully protected, proprietary keyway for single shearline full mortise, knob or leversets, then single shearline KeyMark cylinders, keys and re-pinning charges are the only investment they have to make. Or, the locksmith might suggest a combination of both types of cylinders, interchangeable core for perimeter doors and single shearline cylinders for interior doors, if that option were the most practical and cost-effective.

**A**nother option for the customer who is looking for a dependable, enforceable and affordable key control program that will protect their premises from the unauthorized duplication of keys, Medeco has a line of KeyMark mortise and rim cylinders. Knobsets, leverset and deadbolts that carry the patented KeyMark Security Leg keyway are also available (*Photograph 3.*)

KeyMark is a viable, realistic, practical and profitable alternative to the many "patented" keying systems that are currently available in the industry. Why? First, because its uniquely patented keys and keyways (KeyMark has well over 17,000 potential proprietary keyways) assures the locksmith and their customers of a highly secure key control program that is workable and protectable. Secondly, KeyMark is, by virtue of its wide range of hardware and retrofit options, versatile enough to allow the locksmith to respond to nearly any requirement that a potential or prospective customer may have when it comes to key control applications. Additionally, other product applications are planned for future development that will enhance an already attractive concept.



**3. A rim cylinders showing the patented KeyMark Security Leg keyway.**

**B**ecause of the large number of keyways, hardware options and pinning possibilities, KeyMark has system expansion capabilities which Best/Falcon type systems simply cannot offer without danger of creating inadvertent change keys, master keys or even control keys.

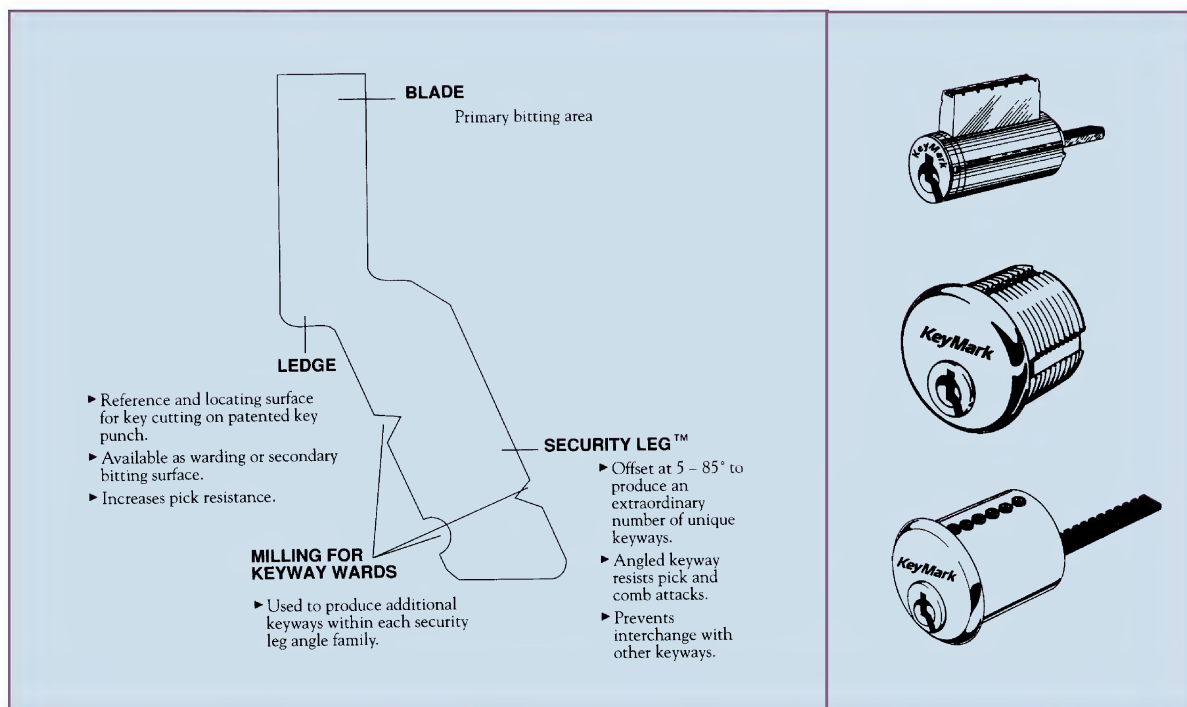
The first thing about the KeyMark key and cylinder that catches your eye is the visual impact of the keyway which doesn't terminate at the normal six o'clock position of a standard cylinder. The KeyMark keyway terminates somewhere in the lower right quadrant of the plug's outer radius, (*Illustration 1.*)

This is the patented "Security Leg" that I have been talking about. This leg comes off the "ledge" of the

keyway anywhere from 5 to 85 degrees. By varying the degree of drop on this leg and adding various wards or broachings to the keyway, KeyMark has a large potential for individualized proprietary keyways.

On KeyMark's I-Core cylinders, the Security Leg helps increase the pick resistance of the cylinder, especially if one was trying to pick the cylinder to the control shear line, since the bottom of the keyway is not located over the holes in the bottom of the control sleeve of the core. With the non-interchangeable core KeyMark cylinders, the ledge under the pins makes picking more difficult by denying the "picker" unimpeded access to the pins and restricting the picker's ability to manipulate the pins. Pick resistance is further enhanced by the utilization of mushroom pins (bottom and top) as an optional pinning measure.

Adding to the key control capabilities of the KeyMark system is the fact that the keys must be cut on a special machine (*Illustration 2.*) The machine is designed and manufactured specifically to cut KeyMark keys. Each machine has a patented, angled jaw and clamp that corresponds to the keyway assigned to a specific locksmith shop. Medeco is presently working on a set of KeyMark jaws that will be compatible with HPC's 1200CM. Unlike other



**1. The KeyMark keyway terminates somewhere in the lower right quadrant of the plug's outer radius.**



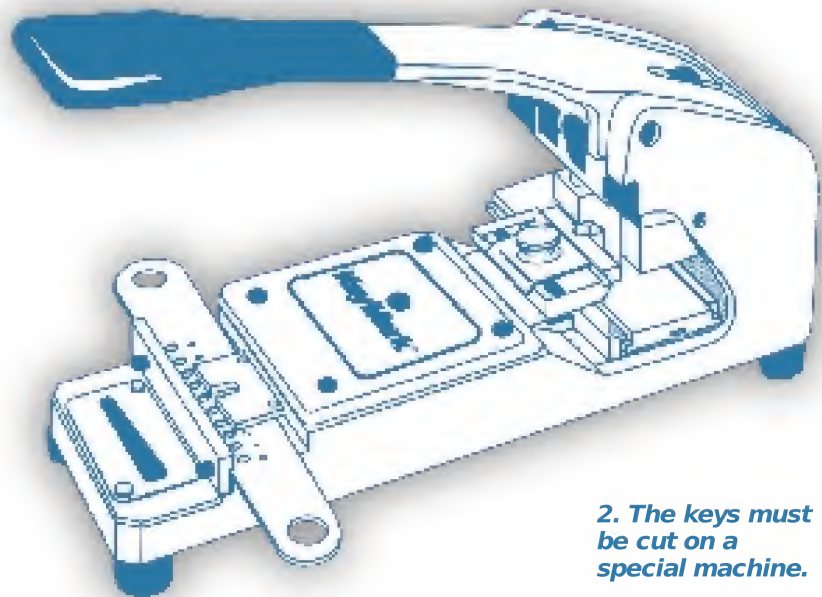
*Continued from page 18*

patented key control systems for I-Core or removable core systems, KeyMark keyblanks cannot be duplicated on common key cutting equipment. This means: Even if a hardware store or non-authorized locksmith could obtain the proper blank, they would be unable to readily duplicate the key.

**A**lthough KeyMark cylinders are not considered high security cylinders, their security is heightened by the difficulty and impracticality involved in trying to counterfeit keys and keyblanks. To prevent one KeyMark dealer from inadvertently duplicating the key of another, Medeco mandates that each dealer have their blanks "coined" at the Medeco factory with their shop name, telephone number and/or personal blind code. If a KeyMark dealer deliberately duplicated a KeyMark key that did not have their specific code coined on the key offered for duplication, Medeco would very likely revoke the offending dealer's license.

That's what KeyMark is all about. Next month, I'll have complete, in-depth information and photographs relating to the pinning and servicing of

KeyMark cylinders and hardware. I'll show you how to pin the various cylinders and how the KeyMark machine works and even what the cylinders look like on a customer's door. For more information on KeyMark and how you can obtain the



*2. The keys must be cut on a special machine.*

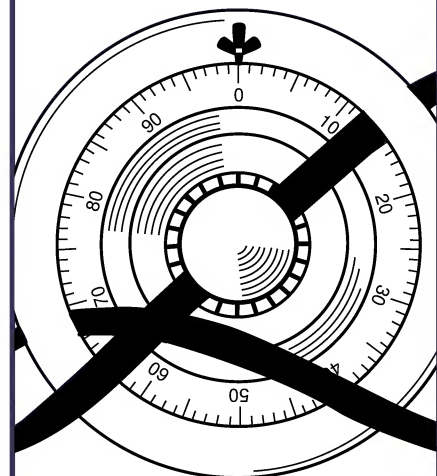
KeyMark line of patent protected key control cylinders, locks and cores for your shop, call Medeco at 1-800-582-2670 and ask them to send you the KeyMark information kit. Do it now, and tell 'em: "Jake told me to call." **TNL**



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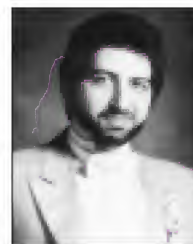
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**GENERAL SECURITY**  
**Test Article #124**

# SCHLAGE

## Interchangeable Core Locks



by **Sal Dulcamero**

Although Best Lock Co., was the first manufacturer of the interchangeable core lock, it is surely not the only one. In addition to the Best compatible clones manufactured by a few different lock companies, there are at least a half dozen different and unique (non-Best compatible) interchangeable core systems designed by some of the other major players in the lock industry.

The interchangeable core lock system from Schlage is probably one of the more recent versions of the interchangeable core systems. The original Schlage interchangeable core design was introduced in 1984. An exploded view of it is shown in Figure 1.

The Schlage interchangeable core system is among the simplest (of all interchangeable core systems) to understand and service. It does not make use of build-up pins and does not require any special mathematical formula to determine pin stacks.

### Schlage Core Construction

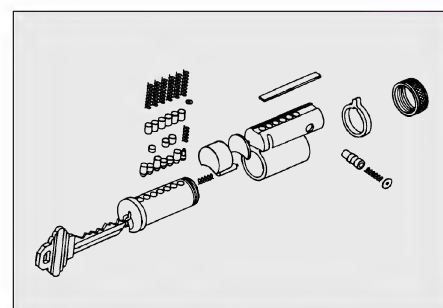
The Schlage interchangeable core lock cylinder was designed in such a way that it is effectively compatible with Schlage non-interchangeable core systems, except that a non-interchangeable core cylinder can't be removed with a control key. The interchangeable core and non-interchangeable core locks can be keyed alike or set to work in the same master key system.

The basic Schlage interchangeable core lock is designed to work with a standard six cut Schlage key. Within the plug are the standard six pin chambers and an extra small diameter pin chamber at the very back of the cylinder. Figure 2, shows the modified core design (introduced in 1991) and

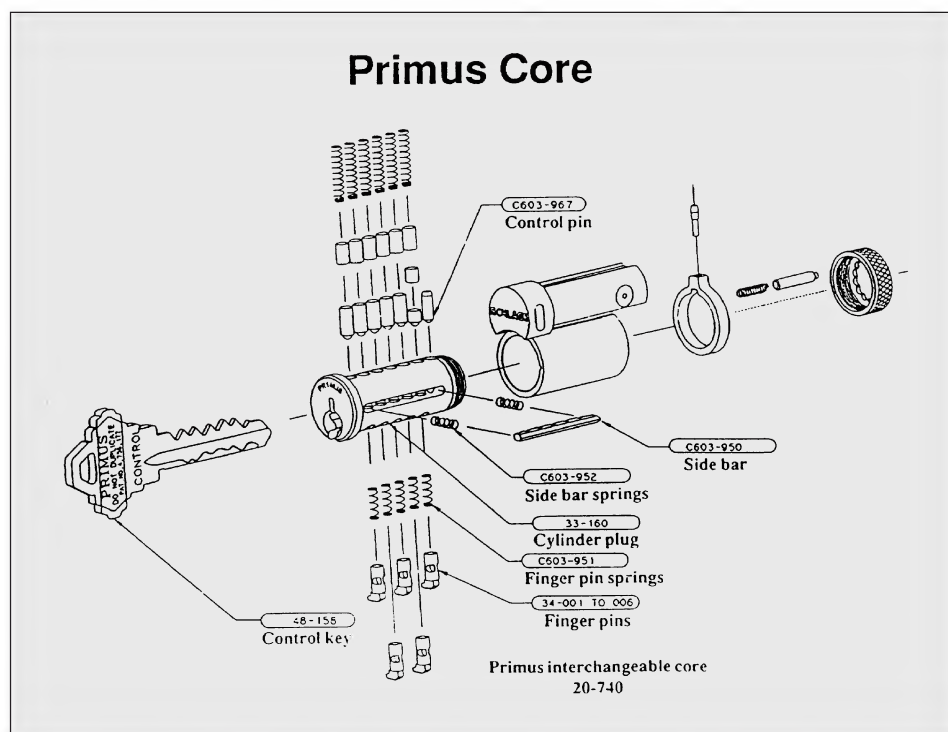
**Of all the interchangeable core locks available, the Schlage IC lock is probably one of the easiest to service and operate.**

the Primus high security version of the Schlage interchangeable core lock. I will explain the modified design and the Primus variation later in this article.

If you look at the exploded views in Figure 2, you will notice that the apparent differences between the interchangeable core cylinders and a more typical cylinder are quite minimal. In the lock plug, there is a seventh pin chamber at the back end.



**Figure 1. The original Schlage interchangeable core design.**



**Figure 2. The modified core design introduced in 1991 and the Primus high security version of the Schlage interchangeable core lock.**



The seventh chamber contains a control pin which is crucial in the core removal process in concert with the control key. The first six pin chambers are of standard diameter and use standard Schlage (or replacement brand) pin tumblers. The seventh pin chamber is smaller in diameter, as is the diameter of the control pin itself.

The actuating ring and actuating pin are two parts that you will obviously not find on a standard non-interchangeable core Schlage lock cylinder. These parts are involved in the control key operated core removal process. A few other parts (not visible in this view) are also integral to the operation and removal of the Schlage interchangeable core.

### Schlage Core Operation

The diagrams in Figure 3, illustrate how the Schlage core operates. The illustration at the top shows the core with a control key and the illustration just below it shows the same core with an operating key. The six pin operating key is too short to reach and lift the control pin in the seventh pin chamber. With the correct operating key, the pins in the six standard pin chambers are aligned with the shear line and are prepared to allow the plug to rotate.

The control pin in the seventh pin chamber is not only smaller in diameter than the other pins in the plug, but also operates differently than standard pin tumblers. In a normal pin chamber, gravity and spring tension will tend to force a bottom pin to the bottom of the pin chamber. With no key to stop it, the top pin will follow the bottom pin into the plug, securing it and preventing plug rotation.

The control pin seventh chamber is drilled just deep enough to allow the top surface of the control pin to be at the shear line, when the pin is pushed (by spring tension) to the bottom of the pin chamber. If you are using a proper operating key and all the pins are at the shear line, the control pin in the last chamber will not interfere with plug rotation.

In the illustration at the top of Figure 3, the control key is long enough to reach and lift the control pin. Because the control pin is the exact length of the control pin chamber depth, raising the control pin at all will cause the top surface of the pin to be above the shear line. Then the control pin moves into a notch in

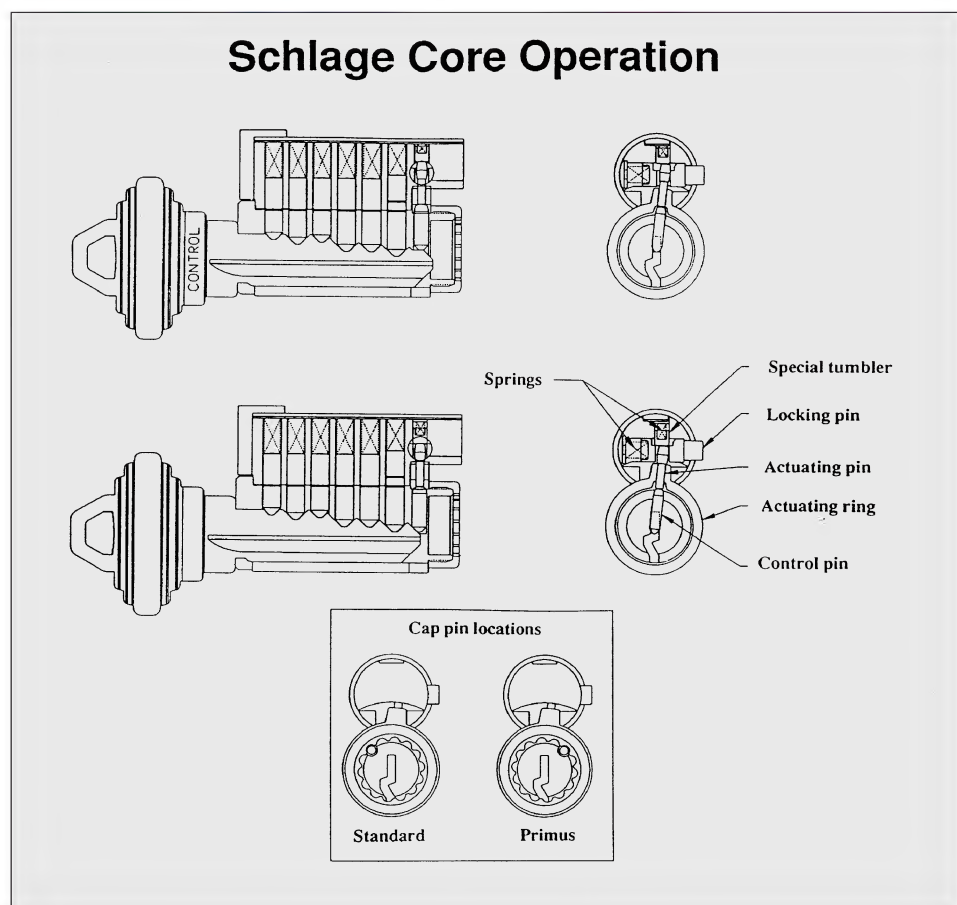


Figure 3. Illustrating how the Schlage core operates.

the inside of the actuating ring, and at the same time lifts the actuating pin. The actuating pin accomplishes two different tasks. First, the actuating pin lifts the special tumbler. The special tumbler is spring loaded and engages the locking pin. The actuating pin pushes the special tumbler upward and disengages it from the locking pin. Once the special tumbler is disengaged from the locking pin, clockwise plug rotation will cause the actuating pin to grab the locking pin and draw it inward. The Schlage core can then be removed from or installed into a Schlage style interchangeable core housing.

### Original Design

The original design Schlage interchangeable core had a much simpler operating locking pin. The spring loaded locking pin could always be pushed in, regardless of whether or not you possessed a control key. That design allowed personnel to load cores into empty housings without being issued control keys. It seemed like a good idea at the time. In theory, the cores would be more secure since you didn't have to issue (the otherwise restricted) control keys to people who might lose or keep them.

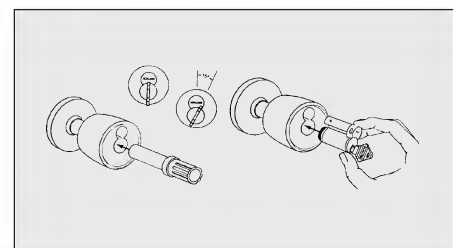


Figure 4. the Schlage conversion inter-changeable core parts and how they all go together.

I already mentioned that the locking pin could always be pushed in for installation purposes. Once the core was installed however, the pin was out of reach. That means that you still needed the control key if you wanted to remove the core.

Ultimately there was concern that unscrupulous people would find a way to physically engage the locking pin, and with nothing to prevent it from being pushed inward, the lock would be compromised. By adding the special tumbler to secure the locking pin (and the other design changes that came with it) Schlage changed the core in May 1991 to require the use of the control key for core insertion as well. Schlage interchangeable cores manufactured since then



**5. A Schlage A-line knob lock converted to an interchangeable core.**

are of that new design illustrated in Figure 3.

#### **Schlage Knob Locks**

Although interchangeable core housings are available in rim or mortise cylinder style, they are also available for key-in-knob locks. You can order a retrofit kit to convert a standard A or D series Schlage key-in-knob lock. The diagrams in Figure 4,

show the Schlage conversion interchangeable core parts and how it goes together. Just like any other knob lock, it can be handchanged left or right. A Schlage A line knob lock converted to an interchangeable core is shown in *Photograph 5*. Although retained and constructed differently than Best style cores, the Schlage interchangeable core also requires 15-degree clock-wise rotation of the



**6. A mortise cylinder style housing for a Schlage interchangeable core.**

control key for insertion or removal of the core.

#### **How It Works**

The core is only half of an interchangeable core system. You also need housings designed to accept the cores. The housings are designed to transfer the motion of the core through the housings to the lockset itself. For a Best style interchangeable core lock, drilled holes in the back of the core interact with actuating pins in the housing. Up to now, I haven't yet

*Continued on page 25*

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Continued from page 23



**7. The mating part on the core is the cap pin, which can be seen at the back of the core.**

explained what transfers motion from the core to the housing.

Photograph 6, shows a mortise cylinder style housing for a Schlage interchangeable core. It has the traditional "figure 8" profile like Best and many other brands, although the opening is larger than that of a Best style housing. A Schlage interchangeable core is too large to fit inside a Best style housing, besides the core retaining method is dramatically different and otherwise incompatible.

In the bottom circle of the "figure

8" you can see the actuating part. There are two notched out sections. In relation to a clock face, they are located at about 10:30 and 1:30. The mating part on the core is the cap pin, which can be seen at the back of the core in Photograph 7. For this standard style Schlage inter-changeable core, the cap pin will mate with the notch (inside the housing) located at 1:30.

#### **Schlage Primus Interchangeable Cores**

When Schlage introduced the Primus high security version of their interchangeable core lock, they had a slight problem. A Primus cylinder is nearly identical to a standard Schlage cylinder except for the addition of a sidebar mechanism and special finger pins which are designed to interact with the sidebar.

The finger pins (and the sidebar) are located on the right

side of the lock cylinder which is the same side as the cap pin. Since the side pins would interfere with the cap pin, Primus cylinders were manufactured with the cap pin relocated to the left side of the cylinder.

For non-interchangeable core Primus cylinders there wasn't a problem, because the cap pin had no other purpose than to keep the retaining cap (at the back of the lock cylinder) from loosening or tightening. The Primus inter-changeable core cylinders also



**8. The back of a Primus interchangeable core cylinder with the cap pin located at the opposite side of a standard Schlage interchangeable core.**

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**9. A Primus key.**

needed the cap pin to actuate the mechanism in the housing, which necessitated the addition of the notch at 10:30. Newer Schlage housings have both notches to accept both standard Schlage and Primus, but some of the much earlier housing are not designed to accept the Primus interchangeable core lock cylinders.

*Photograph 8*, shows the back of a Primus interchangeable core cylinder with the cap pin located at the opposite side of a standard Schlage interchangeable core. Finger pins and a sidebar are shown to the right of the core, encased in Lucite. A Primus key is shown in *Photograph 9*. The side millings operate the finger pins in the lock. A top view of the sidebar and a finger pin is also shown.

#### **The Control Key**

The Schlage interchangeable core system is very different from the Best style system. The control key for a Schlage Interchangeable core is fundamentally the same as an oper-

ating key with the addition of an extended tip. It is sometimes referred to as a 6-pin key, because it is just barely longer than the standard 6 pin key. The control key is designed to interact with the control pin at the very back end of the plug. That tip cut uses a #6 depth (.245") cut, and it comes that way from the factory.

The control key blank is essentially set to "0" depths in the six standard tumbler depths (i.e. not cut), and a #6 depth cut in (effectively) the seventh or control pin position. A control key is made by duplicating an operating key onto a control blank, without accidentally cutting away the tip (for the control pin) in the process. *Photograph 10*, shows a control key next to a standard key. Observe the extended tip on the control key.

The plug has been rotated with an operating key in *Photograph 11*. The actuating ring remains undisturbed and the locking pin is still extended (locked.) In *Photograph 12*, the control key rotates the actuating ring and draws in the locking pin.

In a master keyed system, an individual change key duplicated onto a control blank will create a control key for just that cylinder. A top master key (TMK) duplicated onto a control blank will create a control key for the entire system.

#### **An Inside View**

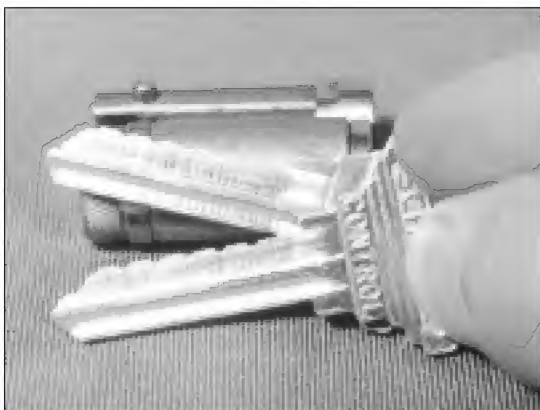
*Photograph 13*, shows a more detailed inside view of a Schlage interchangeable core. The smaller diameter seventh pin chamber can be seen at the back end of the plug. The actuating pin and actuating ring can be seen just above the plug follower. Since the operating key cannot reach the control pin, it seats at the bottom of the pin



**11. The plug rotated with an operating key.**



**12. The control key rotates the actuating ring and withdraws the locking pin.**



**10. A control key next to a standard key.**



**13. Detailed inside view of a Schlage interchangeable core.**





**14. The tip of the control key forces the control pin part way out of the plug.**

chamber and the top surface of the control pin is flush with the top surface of the plug (shear line). *Photograph 14*, displays how the tip of the control key forces the control pin part way out of the plug.

With the plug installed in *Photograph 15*, the top of the control pin can be seen extended into the notch in the actuating ring. *Photograph 16*, shows where the actuating pin fits

into the locking pin to disengage the special tumbler and then withdraw the locking pin itself.

#### **Final Thoughts**

Schlage's interchangeable core system is one of the simplest around. If you've been afraid of interchangeable core locks because of the complicated mathematical core formulas, this may be what you're looking for to get started. **TRM**



**15. The top of the control pin is extended into the notch in the actuating ring.**



**16. The actuating pin fits into the locking pin to disengage the special tumbler and then to draw in the locking pin itself.**



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**AUTOMOTIVE SECURITY**  
**Test Article #125**

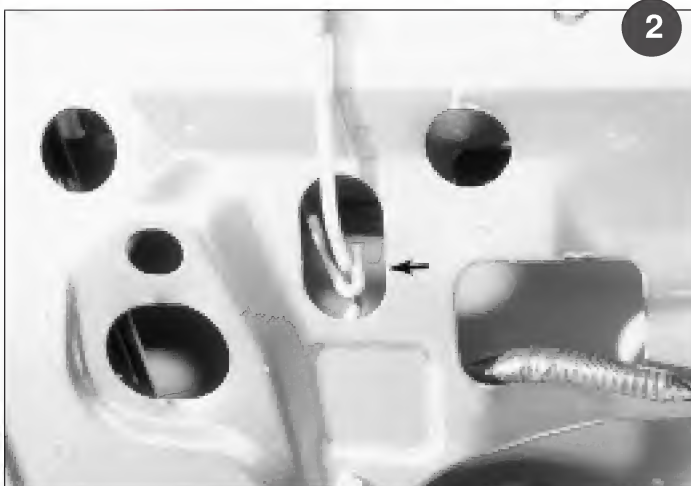
# 1996 Mercury Sable With P.A.T.S.

by Michael Hyde



*This time out we take a look at the 1996 Mercury Sable LS. This model is equipped with the new Ford 8-Cut Transponder System also called P.A.T.S. (Passive Anti-Theft System.) The 1996 Mercury Sable LS and the 1996 Ford Taurus LX models are equipped with not only the new Ford 8-Cut system but with Transponders also. These models are very popular with the rental car companies and it is important to know how to service them correctly.*

## OPENING



*To open the car is pretty easy, since the linkage is vertical and exposed. Use a good light if needed, and a vertical slide linkage tool to grasp the rod and pull upwards to unlock the door.*

## IGNITION

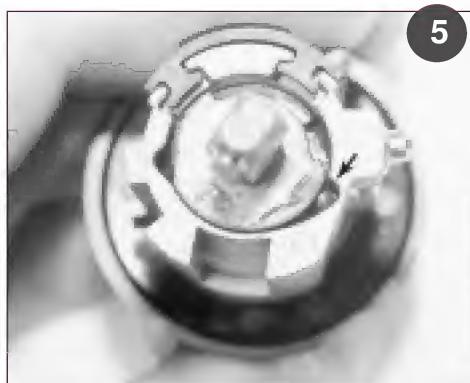


*Servicing the ignition is the same whether equipped with or without a transponder. To remove the ignition cylinder, simply insert a working key and rotate it clockwise to the first accessory position. Now insert a probe into the access hole in the plastic steering column shroud to depress the active retainer and slide the cylinder out of the column.*

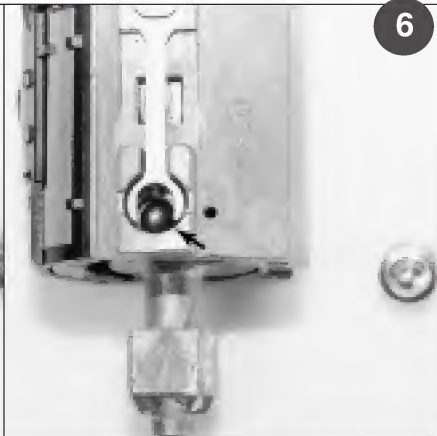
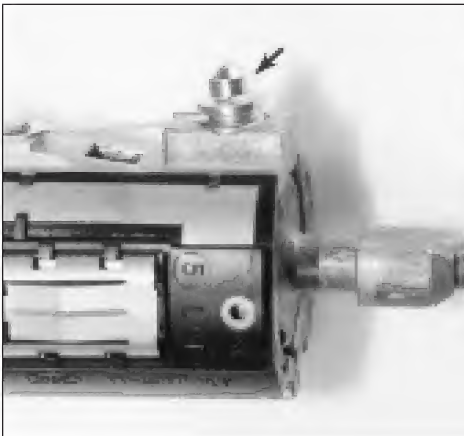




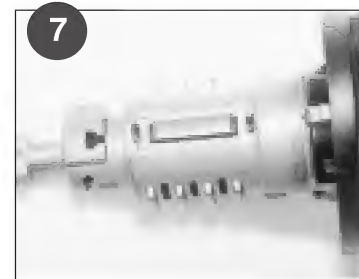
**4**  
The ignition cylinder is removed and can now be serviced.



**5**  
To disassemble the ignition cylinder, insert a working key and rotate the cylinder clockwise as far as it will turn. Once rotated, use a small probe to depress the ball bearing in the rear of the lock. Once the ball bearing is depressed you will be able to rotate the cylinder even farther and then slide the cylinder plug out. The ball bearing will eject into the cavity the active retainer occupies.



**6**  
You can gently lift the active retainer out to see the ball bearing. When reassembling, you will use this cavity to reload the ball bearing, it is quite simple.



**7**  
The ignition cylinder plug contains seven wafer tumblers in positions 2 through 8 and also incorporates a sidebar.

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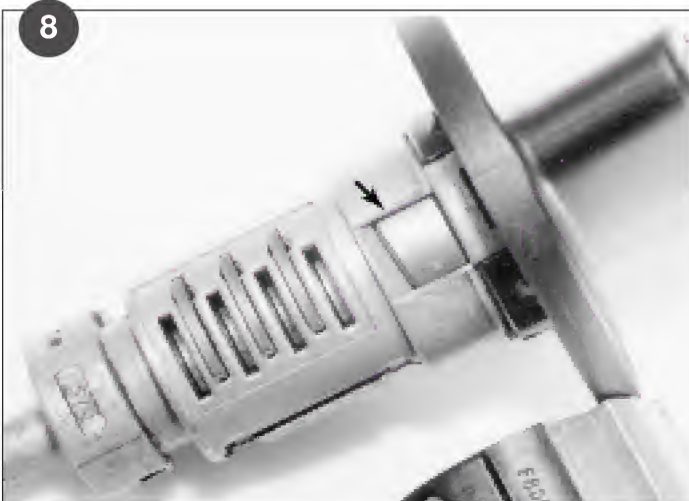


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**When servicing the ignition lock be careful not to let the buzzer activator drop out. Strattec replacement part number for an ignition service package is 703370. The tumblers for the ignition can be found in the Strattec Ford 8-cut Pinning Kit 703373.**

#### DOOR LOCK



**To access the door lock on this vehicle, the door panel must be removed. Removing the door panel however, is also a breeze.**



**First remove the screw cap located down in the door pull cavity and then remove the phillips-head screw.**



**Next remove the plastic trim piece behind the inside door release lever. Use a small screwdriver to gently unsnap it from the top. Tilt the trim cover forward from the top and lift it out of the panel.**



**Now you can gently unsnap the door panel and remove it. That's right, the panel is only held to the door by one screw and some standard push-in type panel fasteners. You do not have to lift up on the panel to remove because it does not interlock into the window channel. Once the trim panel is removed, you can roll back the inner air barrier and service the lock.**

*Continued on page 32*

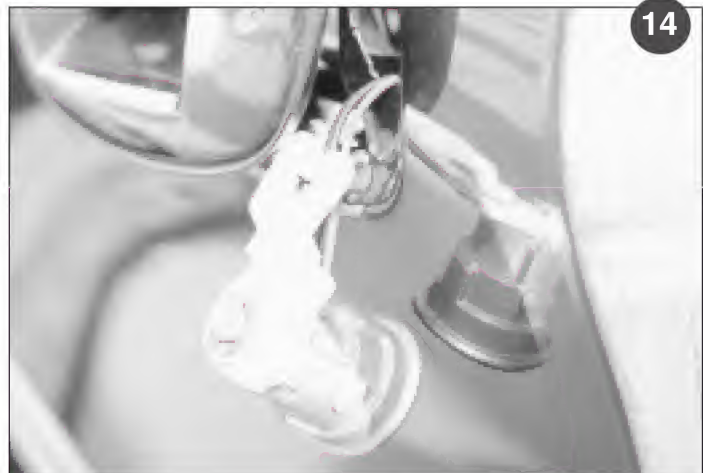


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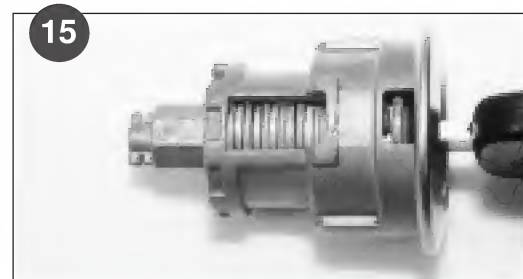
13

The door lock cylinder is held to the door by the standard horseshoe style clip. You must first remove the two 8mm bolts that hold the handle in place (a 5/16" socket will also work.) Lift the bottom portion of the handle outward to gain easier access to the clip and then slide the clip towards the front of the car to remove it. The lock cylinder can now be separated from the linkage rod.



14

Next, instead of trying to remove all the wiring with the lock, just remove the "E" style retaining clip on the back of the lock to separate it from the wired switch. Be sure to mark the wired switch and the lock to know where to line it up correctly.



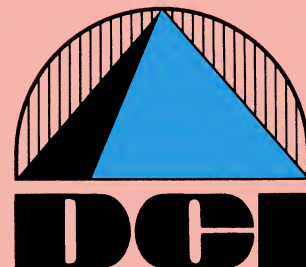
15

The door lock cylinder contains six tumblers in positions 1 through 6. In the door lock cylinder pictured, note that all six tumblers can be seen from the drainage hole.



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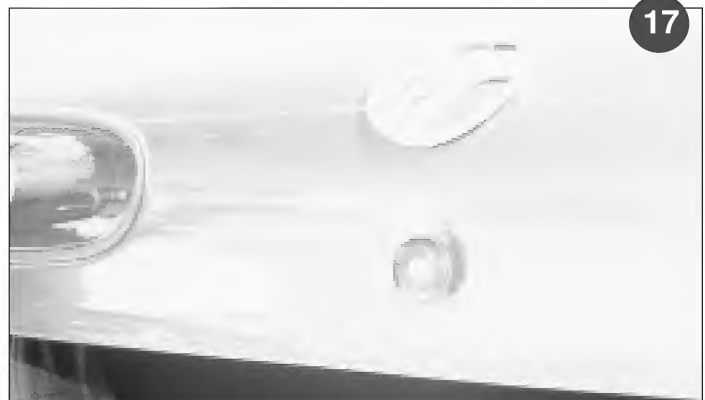
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16

To remove the cylinder from the housing, it is necessary to rock the tumbler back and forth. The door lock has a detent that is located in the housing. This detent is new for domestic Ford products. Strattec replacement part number for a door lock service package is 703162. Replacement face-cap part number from Strattec is 322672. The tumblers for the door can be found in the Strattec Ford 8-cut Pinning Kit 703373.

#### TRUNK LOCK



17

One good thing about the trunk lock is you do not have to remove the tail lights to get to it like on some other vehicles.



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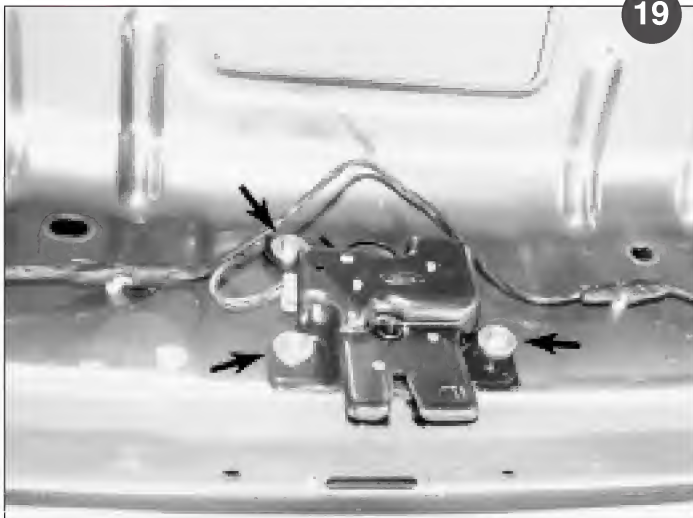
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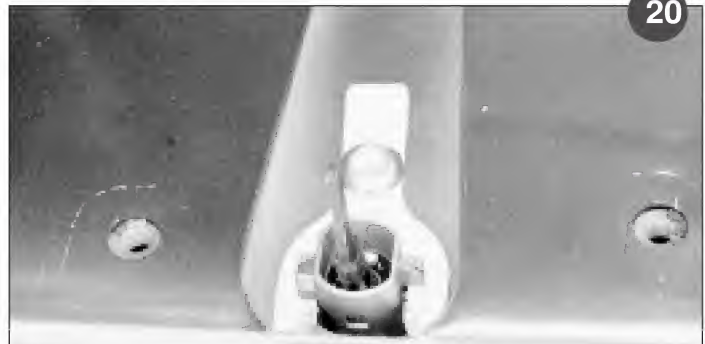
18

There are two retaining clips that hold the trunk lock to the deck lid. To remove the first retaining clip you must drill out the two aluminum rivets that hold it. The clip will now slide out. At this point you can also see all the tumblers in the lock through the drain hole. The next step is to remove the plastic trim piece that covers the latch assembly. It is held on with three plastic screw fasteners.



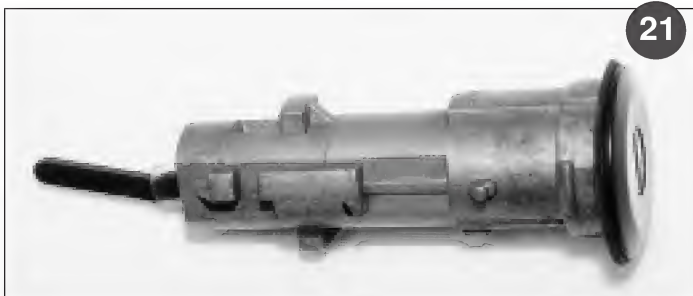
19

With the trim piece removed, you can now remove the latch assembly, it is held on to the deck lid by three 8mm bolts.



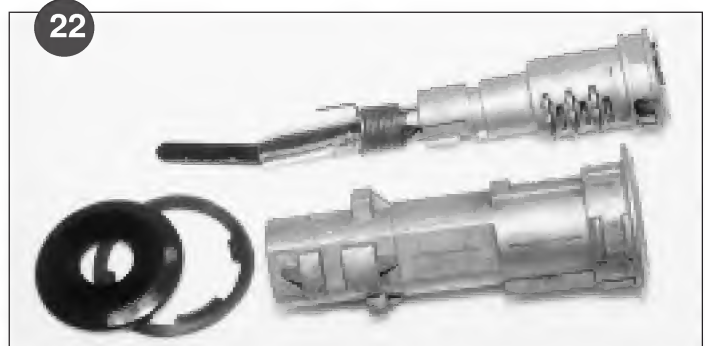
20

Once the latch is removed you will find the second lock retainer. It will be necessary to remove the rivets that secure it in place. Start out with a small drill bit, like a 3/32", and then increase in size until the rivet comes out. After the second lock retainer is removed the trunk cylinder can be easily slid out of the deck lid.



21

The trunk lock can now be serviced.



22

To disassemble the trunk lock, you must first remove the face-cap. Insert a working key and rotate the plug until it slides out of the cylinder housing. The lock cylinder is warded, so only a working key will allow the cylinder plug to rotate to the correct position for disassembly. The cylinder plug contains tumblers in positions 3 through 8. To remove or insert a tumbler it will be necessary to rock the tumbler back and forth.

Continued from page 34



Note the way the tailpiece and tailpiece spring fit together and attach to the cylinder plug. There is an opening for the spring and tailpiece, it can only go on one way, correctly. The other end of the spring rests up against notch a in the cylinder housing.



After you reinstall the trunk lock cylinder, you should secure the lock cylinder retainer with a sheet metal screw as it will be difficult to find a rivet as large as the one you drilled out. Strattec replacement part number for a trunk lock service package is 703365. Replacement face-cap part number from Strattec is 322534. The tumblers for the trunk can be found in the Strattec Ford 8-cut Pinning Kit 703373.

## GLOVE BOX LOCK

The glove box lock is pictured. The lock can also be referred to as a "Stowage Lock".

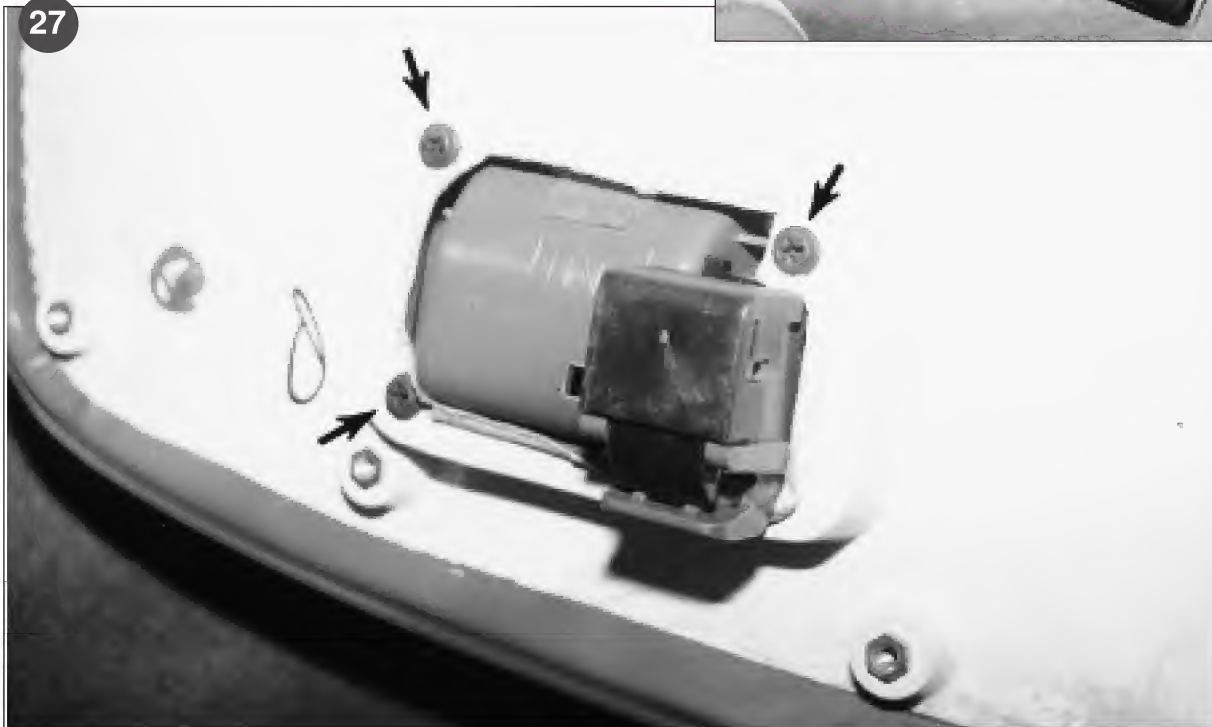


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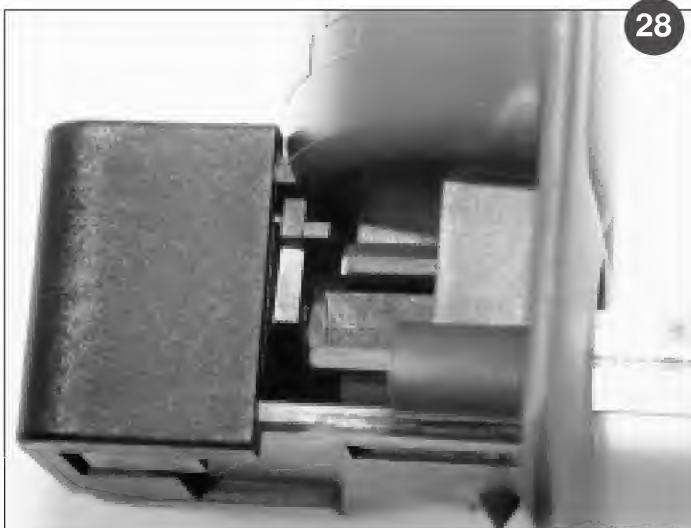


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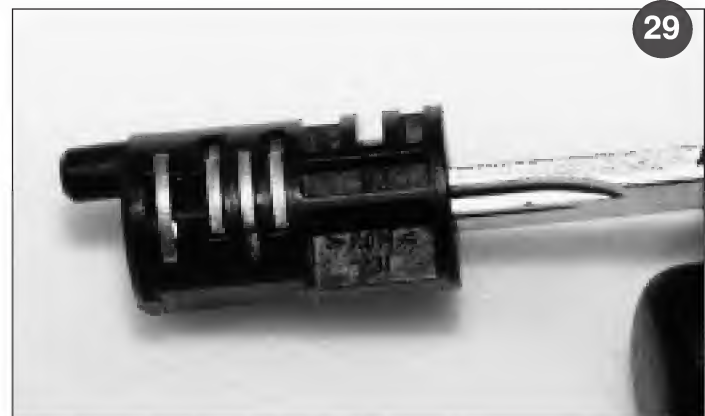
To remove the glove box lock you will need to disconnect the spring loaded retainer string located on the right side of the glove box door. To lower the glove box door to gain access to all the screws, push inward on both sides of the compartment portion of the door to allow the stop posts to pass the dash cut-out.



Next remove the eight phillips-head screws on the inside of the glove box door. Once you have removed the eight screws, lift off the glove box door and remove the three remaining screws holding on the lock assembly.



Insert a working key and then depress the active wafer retainer on the rear of the lock housing to slide the cylinder plug out.



The glove box cylinder plug contains three tumblers in positions 6 through 8. The tumbler at the rear of the plug is the active retainer tumbler. The plug is made of plastic. Strattec replacement part number for a Glove Box cylinder plug is 381231. The tumblers for the glove box can be found in the Strattec Ford 8-cut Pinning Kit 703373.

*Continued from page 38*

### **MAKING FIRST KEY:**

To make a first key there are two steps, first you must make a mechanical key and then program in the new PATS transponder code.

#### **Step One: Making Mechanical Key**

*Method One:* Use EEZ-Reader (Sold by H.E. Mitchell Co.) in door lock to determine cuts in positions 1 through 6, then progress the two remaining cuts in the ignition, for positions 7 & 8. Or, impression the remaining two cuts in the trunk lock.

*Method Two:* Press trunk release button to open trunk. Remove only the first trunk cylinder retaining clip by drilling out the two aluminum rivets. Once the clip is removed you can then see all the tumblers in the lock through the drainage opening. Insert a blank and 'read' the tumbler depths. Progress the two remaining cuts in the ignition, for positions 7 & 8. Or, impression the remaining two cuts in the trunk lock.

#### **Step Two: Programming Replacement Keys Transponder. (No other working key for car is available.)**

*Step One:* Put the newly cut key into the keyway and turn it to the ON (RUN) position. A theft indicator light on the dashboard will flash for 15 minutes.

*Step Two:* Within 5 minutes after the indicator light stops flashing, turn the ignition to OFF, then return to the ON (RUN) position. The indicator light again will flash for 15 minutes.

*Step Three:* Again, within 5 minutes after the indicator light stops flashing, turn the ignition to OFF, then return to the ON (RUN) position. The indicator light again will flash for 15 minutes. When the light stops flashing for the third time, the new key is programmed into the computer and will start the car. All previously stored codes will be erased. To stop the process at any time, simply remove the key and use an existing key to start the car.

### **FOR CARS WHERE YOU WANT TO CREATE A SPARE KEY:**

As many as 16 keys, each with its own individual electronic code, can be programmed into the computer for a vehicle equipped with PATS. The system will ignore attempts to enter a 17th code. If a key is already programmed into the computer is available, programming another key only takes seconds.

1. Place an already programmed key in the keyway. Cycle the ignition from OFF to ON (RUN) to OFF.
2. Within 15 seconds, insert the new, properly cut PATS key in the ignition. Turn the key to ON (RUN) or START. The theft indicator light will go on for two seconds, after which the key will start the vehicle.
3. Repeat the second step for each new key to be programmed.
4. If the light flashes for 15 minutes, too much time elapsed between cycling of the already programmed key and the new key. If this happens, simply start over. If the light flashes for 1 minute, the new key is defective or is not a PATS key. Start again with a different key. To stop the process at any time, simply remove the key and use the pre-existing key to start the car.
5. To remove any key code from the system, erase all stored codes using the programming mode and re-enter the desired spare keys. **TRN**

**Code Series: Ford 8-Cut, 0001X-1706X**

**Key Blank:**

**Ilco: H72-PT**

**Silca: FO38RT3**

**Curtis: H72-PT**

**M.A.C.S. 2**

**Framon: First cut: .405**

**Framon: Use spacing clip, align tip of key with left side of vise. Lay clip FLAT on left side of vise and slide key in from right.**

**Cut to Cut: .092**

**Depths: 1=.354, 2=.329, 3=.304,**

**4=.279, 5=.254**







**ELECTRONIC SECURITY**  
**Test Article #126**

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# The Dor-O-Matic Jr-Swing

***The simplicity of the Jr-Swing design allows for virtually any individual to install this door operator.***

**by Fredrick J. Chubbuck**

When the Jr-Swing was originally designed, the only application that was being focused on for handicap installations was the entry doors in washroom facilities. Since the majority of washrooms were for the public use, the primary concern was to open or assist individuals in gaining entry into these facilities.

When the Jr-Swing was developed, requirements for positive latching of washroom doors to meet fire codes was not required. These doors were looked upon as smoke doors only and not part of the fire wall package.

The simplicity of the Jr-Swing design allows for virtually any individual to install this door operator. Today there are two different standards developed by the American National Standards Institute, (ANSI) used as a guide for the manufacturer, consumer and the general public. The first set of standards covers power operated pedestrian doors 156.10, and the second set covers the power assist and low energy power door operators, 156.19. The Jr-Swing is a low energy power door operator (Photograph 1.)



**1. The Jr-Swing is a low energy power door operator.**

Two key factors which separate pedestrian power door operators from low energy door operators, is the kinetic swing force and the cycle time. With the low energy operators, the maximum allowable opening swing force is 15 lbs., with three seconds of opening time from the point of full closure to the backcheck point. The Jr-Swing has these two features factory set, so that the product can not be modified or allowed to operate outside of these settings.

The Jr-Swing is designed so it can be mounted with either a push arm installation or a pull arm installation, and for hinge, pivot, or center hung door configurations. Photograph 2 shows the regular "Push-it" arm at the

top and the "Pull" arm at the bottom.

Additionally, two different covers for the Jr-Swing are available, a standard length 14 inch cover, plus an optional cover 18-1/2 inches long. This is to house an interface unit for electric strike applications and also to



**2. The regular "Push-it" arm at the top and the "Pull" arm at the bottom.**

house the receiver for radio control installations. *Photograph 3*, shows the 18-1/2 inch cover at the top and the standard 14 inch cover at the bottom. A surface applied 4-gang junction box and radio control (1290R) can be seen in *Photograph 4*.

**B**efore starting the installation of the operator package, consider where your power source is located and address any requirements to transfer the power to the location of your installation. You have the option to utilize the outlet power cord provided or you can hard wire the unit to 115 VAC power supply.



**3. The 18-1/2 inch cover at the top and the standard 14 inch cover at the bottom.**

Next, establish the location of the activation switches, and provide 16-18 gage wire from the switch location back to the operator. In *Photograph 5*, the supplied switch on the right is the 1211-900, with a face plate dimension of 5"x1-3/4". The universal handicap logo (1292-900) is shown on the left. This design allows for mounting on the face of the jamb, positioning the switch approximately 41 inches off the floor. Optional activation is also available, including a line of radio transmitted switches, floor mats, ballard post, and motion detectors.

When considering the switch location, be sure to consider the approach limitation or the swing path of the door, and the maneuvering limitation of an individual in a wheelchair. If in any doubt, refer to the UFAS publication published by Architectural and Transportation Barriers Compliance Board (ATBCB.) The publication defines various applications and provides solutions for existing problems.

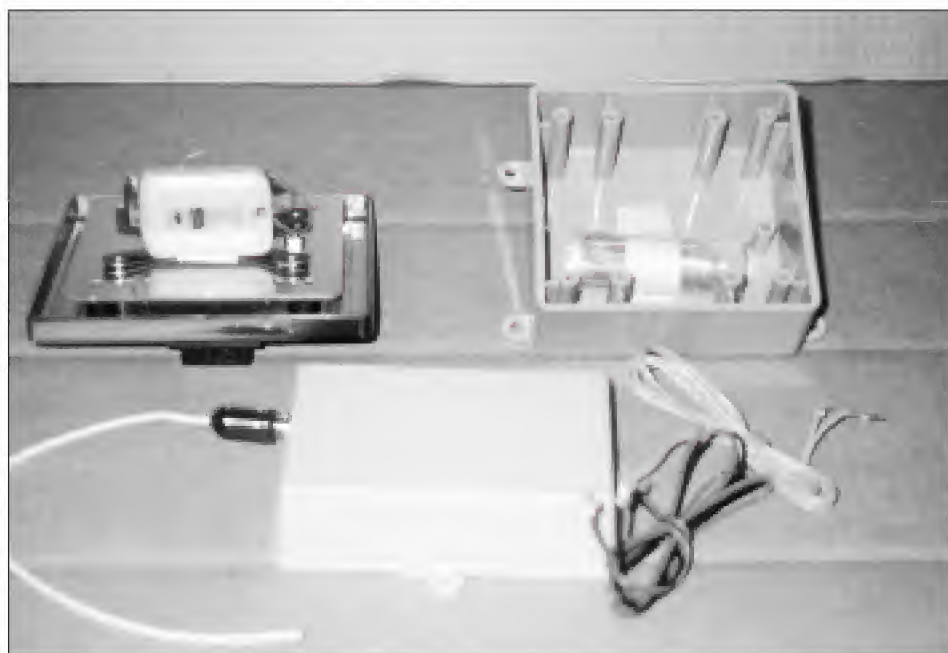
Once the above issues has been addressed, you can proceed with the installation of the operator.



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**4. A surface applied 4-gang junction box and radio control (1290R).**

A physical installation template is provided with the Jr-Swing which is taped to the frame of the door opening. Using the center line of the hinge or pivot as the positioning reference point, you then locate the three mounting holes. Two

are located on the frame and one hole is on the wall above the frame. Additionally, you will also locate the two hole configurations for either the regular control arm shoe or the track assembly on the door. In the standard screw package, molly screw anchors



**5. The supplied switch on the right is the 1211-900, with a face plate dimension of 5"x1-3/4". The universal handicap logo (1292-900) is shown on the left.**

are provided for dry wall conditions, plastic anchors for masonry wall conditions, and sheet metal screws for wood or metal frame conditions (Photograph 6.)

Following the locating and mounting of the operator to the frame and the attachment of the arm, verify the reveal dimension against the chart provided with the template and make any necessary adjustments to the secondary arm. Next, connect the



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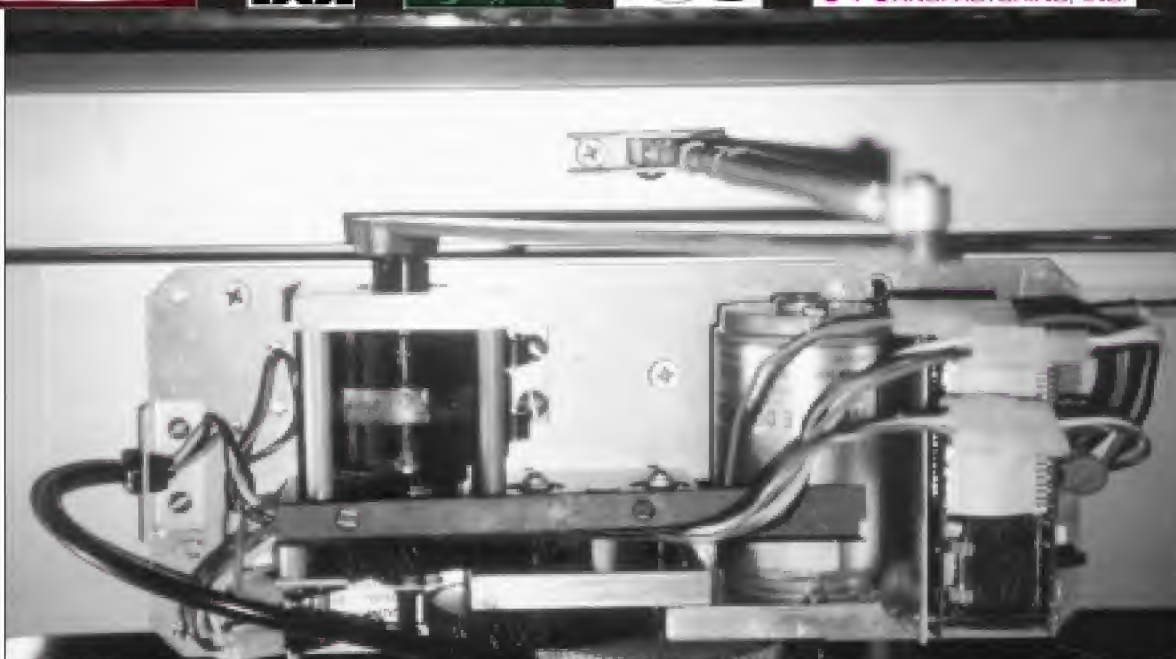
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wiring for the switch activation (orange wires) and connect the incoming power.

While testing the Jr-Swing, the door will electrically open to approximately 75 degrees and the back check latch will kick in. The door will then continue to slowly swing to the full open position at 90 degrees. The door will hold open for a delay period of 3-30 seconds then release, allowing the door to close under its own spring power to the latch point. Upon review of the operation, you can adjust several elements of the operation. The operator has two speed settings for the opening speed, adjustable cams for the back check point, varying latch points, and a variable time delay before the door closes. Additional optional features are also available if "push and go" and safety tap is required.



**6. The Jr-Swing installed on an aluminum door and frame.**

Once you have established the requirements of the opening and modified your settings, no further adjustment or maintenance is required. Since the product is all electromechanical, no hydraulic fluid is used and therefore the operator can not leak. Additionally, in the absence of power, the integrity of the door is

not compromised, for the unit will still operate as a manual closer.

With this simple design and ease of installation, you will experience a trouble free product providing years of dependable operation and service.

For more information contact: Dor-O-Matic, 4640 N. Oketo Ave., Harwood Heights, IL 60656. (800) 666-0472. **TRU**

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## GENERAL SECURITY TEST

COVERS TEST ARTICLES...

#118 April 1996,  
"Interchangeable Core Locks  
Best Style, Part 2"

#121 May 1996,  
"Interchangeable Core Locks  
Best Style, Part 3"

#124 June 1996,  
"Schlage IC Locks"

1. The different pinning systems used by Best IC locks are?

- ☐ A. A-1, A-2 and A-3 .
- ☐ B. A-2, A-3 and A-4.
- ☐ C. A-3, A-4, and A-5.
- ☐ D. A-1, A-3 and A-5.

2. The intervening component between the shell and the plug is?

- ☐ A. The lug.
- ☐ B. The plug.
- ☐ C. The control sleeve.
- ☐ D. Shear line.

3. The A-2 system uses a .0125 pin increment with ten depths?

- ☐ A. True
- ☐ B. False

4. Each Best pinning system use different diameter pin tumblers?

- ☐ A. True
- ☐ B. False

5. A non-mastered Best lock contains how many pins per chamber?

- ☐ A. 2
- ☐ B. 3
- ☐ C. 4
- ☐ D. 1

6. The pin stack in an A-2 Best system should total?

- ☐ A. 21
- ☐ B. 23
- ☐ C. 25
- ☐ D. 22

7. The A-3 system has a pin increment of .020 and seven depths?

- ☐ A. True
- ☐ B. False

8. The pin stack in an A-3 Best system should total?

- ☐ A. 15
- ☐ B. 17
- ☐ C. 19
- ☐ D. 16

9. The pin stack in an A-4 Best system should total?

- ☐ A. 12
- ☐ B. 13
- ☐ C. 14
- ☐ D. 15

10. Best style keys have a key stop on the bottom of the key blade?

- ☐ A. True
- ☐ B. False

11. The Best style key protrudes through the back of the plug when inserted?

- ☐ A. True
- ☐ B. False

12. The plug of a Best lock can be removed from the shell?

- ☐ A. True
- ☐ B. False

13. The Best style core use what to seal the pin chambers?

- ☐ A. One cap to cover all pin chambers.
- ☐ B. Cap screws.
- ☐ C. Individual caps for each pin chamber.
- ☐ D. None of the above.

14. Ejector holes are positioned on the?

- ☐ A. Bottom of the core.
- ☐ B. Top of the core.
- ☐ C. Side of the core.
- ☐ D. There is no such thing as ejector holes.

15. A Capping block is used to remove the pins from a Best lock?

- ☐ A. True
- ☐ B. False

16. The Falcon IC locks use what to seal the pin chambers?

- ☐ A. One cap to cover all pin chambers.
- ☐ B. Cap screws.
- ☐ C. Individual caps for each chamber.
- ☐ D. None of the above.

17. Best locks use build up pins in each pin chamber?

- ☐ A. True
- ☐ B. False

18. The Schlage IC lock is designed to work with a standard five cut Schlage key?

- ☐ A. True
- ☐ B. False

19. Best locks require a special mathematical formula to determine pin stacks?

- ☐ A. True
- ☐ B. False

20. An actuating ring and actuating pin are parts found on all IC locks?

- ☐ A. True
- ☐ B. False

21. Schlage IC locks require a 15-degree clockwise rotation of the control key to remove the core?

- ☐ A. True
- ☐ B. False

22. The control key for a Schlage IC lock is referred to as?

- ☐ A. A 5-pin key.
- ☐ B. A 6-pin key.
- ☐ C. A 7-pin key.
- ☐ D. None of the above.

23. The tip cut of a Schlage IC control key uses a #6 depth for all locks?

- ☐ A. True
- ☐ B. False

24. The Schlage IC system is one of the most difficult to use?

- ☐ A. True
- ☐ B. False

25. The Schlage IC lock system use build-up pins to determine pin stacks?

- ☐ A. True
- ☐ B. False

TNL





## AUTOMOTIVE SECURITY TEST

COVERS TEST ARTICLES...

#119 April 1996,  
"1995 Kia Sportage 4X4"

#222 May 1996,  
"1996 Mercury Tracer"

#225 June 1996, "1996  
Mercury Sable With P.A.T.S."

1. The Kia Sportage is made where?  
☐ A. America  
☐ B. Japan  
☐ C. Korea  
☐ D. Germany
2. The Kia Sportage ignition cylinder is held in the housing by?  
☐ A. A retainer.  
☐ B. Two roll pins.  
☐ C. One roll pin.  
☐ D. C-clip
3. The ignition lock of the Kia Sportage contains how many pins?  
☐ A. Six  
☐ B. Seven  
☐ C. Eight  
☐ D. None of the above.
4. The Kia Sportage uses a double sided convenience key?  
☐ A. True  
☐ B. False
5. The inside door trim of the Kia Sportage does not need to be removed to remove the door lock?  
☐ A. True  
☐ B. False
6. The Kia Sportage ignition plug can be removed without removing the entire lock?  
☐ A. True  
☐ B. False
7. The face cap of the Kia Sportage door lock is held on by?  
☐ A. One roll pin.

- ☐ B. Two roll pins.  
☐ C. Double stakes.  
☐ D. One C-clip

8. The Kia Sportage door lock contains how many tumblers?  
☐ A. Five  
☐ B. Six  
☐ C. Seven  
☐ D. Eight

9. The door lock of the Kia Sportage is double sided?  
☐ A. True  
☐ B. False

10. The Kia Sportage tailgate lock contains how many tumblers?  
☐ A. Five  
☐ B. Six  
☐ C. Seven  
☐ D. Eight

11. The Kia Sportage glove box lock contains how many tumblers?  
☐ A. Three  
☐ B. Four  
☐ C. Five  
☐ D. Six

12. The Mercury Tracer ignition is held in by?  
☐ A. One roll pin.  
☐ B. Two roll pins.  
☐ C. A retainer clip.  
☐ D. None of the above.

13. The Mercury Tracer ignition contains how many tumblers?  
☐ A. Six  
☐ B. Seven  
☐ C. Eight  
☐ D. Nine

14. The Mercury Tracer door panel must be removed to remove the door lock?  
☐ A. True  
☐ B. False

15. The Mercury Tracer door lock contains how many tumblers?  
☐ A. Six  
☐ B. Seven  
☐ C. Eight  
☐ D. Nine

16. What are the wafer positions for the Mercury Tracer door lock?  
☐ A. 2 - 9  
☐ B. 3 - 10  
☐ C. 1 - 8  
☐ D. 2 - 10

17. The trunk lock of the Mercury Tracer contains how many pins?  
☐ A. Six  
☐ B. Seven  
☐ C. Eight  
☐ D. None of the above.

18. How many pin depths are there for Mercury Tracer locks?  
☐ A. Four  
☐ B. Five  
☐ C. Six  
☐ D. None of the above.

19. The 1996 Mercury Sable is equipped with 10-Cut locks?  
☐ A. True  
☐ B. False

20. The Mercury Sable ignition is held in by?  
☐ A. One roll pin.  
☐ B. Two roll pins.  
☐ C. A retainer.  
☐ D. C-clip

21. The Mercury Sable ignition lock contains how many tumblers?  
☐ A. Six  
☐ B. Seven  
☐ C. Eight  
☐ D. Ten

22. The Mercury Sable door panel is secured by?  
☐ A. One screw.  
☐ B. One screw and panel fasteners.  
☐ C. Two screws.  
☐ D. Two screws and panel fasteners.

23. The Mercury Sable door lock contains how many tumblers?  
☐ A. Six  
☐ B. Seven  
☐ C. Eight  
☐ D. Ten

24. The Mercury Sable trunk lock contains how many tumblers?  
☐ A. Six  
☐ B. Seven  
☐ C. Eight  
☐ D. Ten

25. How many phillips-head screws must be removed to remove the glove box lock on the Mercury Sable?  
☐ A. Six  
☐ B. Seven  
☐ C. Eight  
☐ D. None

TNL



## ELECTRONIC SECURITY TEST

COVERS TEST ARTICLES...

#220 April 1996,  
"Securitron's DK-26, Part 1"

#223 May 1996,  
"Securitron's DK-26, Part 2"

#226 June 1996,  
"Dor-O-Matic Jr-Swing"

1. The Securitron DK-26 touch pad contains how many L.E.D's?

- ☐ A. One
- ☐ B. Two
- ☐ C. Three
- ☐ D. None

2. The Securitron DK-26 is a?

- ☐ A. Touch pad and CPU board.
- ☐ B. Panic bar.
- ☐ C. Panic bar and CPU.
- ☐ D. Electro magnetic lock.

3. The "P" button on the Securitron DK-26 CPU board is for?

- ☐ A. Changing users codes.
- ☐ B. Programming the lock.
- ☐ C. Emergency override.
- ☐ D. Changing the program code.

4. The "H" button on the Securitron DK-26 CPU board is for?

- ☐ A. Changing the user codes.
- ☐ B. Changing the housekeeping code.
- ☐ C. Emergency override.
- ☐ D. Changing the hard code.

5. The Securitron DK-26 CPU has colors stamped on each terminal?

- ☐ A. True
- ☐ B. False

6. The Securitron DK-26 will accept up to 100 separate user codes from the touch pad alone?

- ☐ A. True
- ☐ B. False

7. The Securitron DK-26 has true 10-button code capability?

- ☐ A. True
- ☐ B. False

8. The Securitron DK-26 will accept user codes of different lengths?

- ☐ A. True
- ☐ B. False

9. To delete a user code from the Securitron DK-26 simply enter the Program Code, call up the users I.D. number then hit the Bell key?

- ☐ A. True
- ☐ B. False

10. When installing the Securitron DK-26 Wire Mold products can be used to conceal the wiring?

- ☐ A. True
- ☐ B. False

11. The business end of the PB2E has terminals for Normally Open and Normally Closed only?

- ☐ A. True
- ☐ B. False

12. REX means Request To Exit?

- ☐ A. True
- ☐ B. False

13. ANSI is the acronym for?

- ☐ A. Another Non Significant Issue.
- ☐ B. American National Standards Institute.
- ☐ C. American Neurological Systems Incorporated.
- ☐ D. None of the above.

14. The maximum allowable door opening swing force for ADA requirements is?

- ☐ A. 12 lbs.
- ☐ B. 13 lbs.
- ☐ C. 14 lbs.
- ☐ D. 15 lbs.

15. Before installing the Dor-O-Matic Jr-Swing, first consider the power source location?

- ☐ A. True
- ☐ B. False

16. ATBCB is the acronym for Architectural and Transportation Barriers Compliance Board?

- ☐ A. True
- ☐ B. False

17. When installing the Dor-O-Matic Jr-Swing, the center line of the bottom hinge or pivot is the positioning reference point?

- ☐ A. True
- ☐ B. False

18. The Dor-O-Matic Jr-Swing features two speed settings.

- ☐ A. True
- ☐ B. False

19. The Dor-O-Matic Jr-Swing is all electromechanical?

- ☐ A. True
- ☐ B. False

20. The Dor-O-Matic Jr-Swing will hold the door open for a delay period of 15-30 seconds.

- ☐ A. True
- ☐ B. False

21. The Dor-O-Matic requires 12VDC to operate?

- ☐ A. True
- ☐ B. False

22. When considering the switch location for the Dor-O-Matic Jr-Swing, consider the swing path of the door and the maneuvering limitation of an individual in a wheelchair.

- ☐ A. True
- ☐ B. False

23. The Securitron DK-26 touch pad L.E.D. colors are?

- ☐ A. Red, White and Blue.
- ☐ B. Red, Yellow and Green.
- ☐ C. Red, Yellow and Blue.
- ☐ D. Red, Orange and Green.

24. The Securitron DK-26 touch pad is secured by?

- ☐ A. One screw.
- ☐ B. Two screws.
- ☐ C. Snap retainers.
- ☐ D. None of the above.

25. The Securitron DK-26 can be wired for either fail-safe or fail-secure?

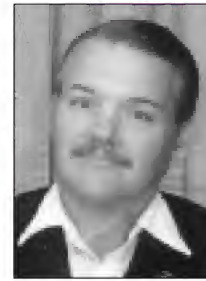
- ☐ A. True
- ☐ B. False

TNL

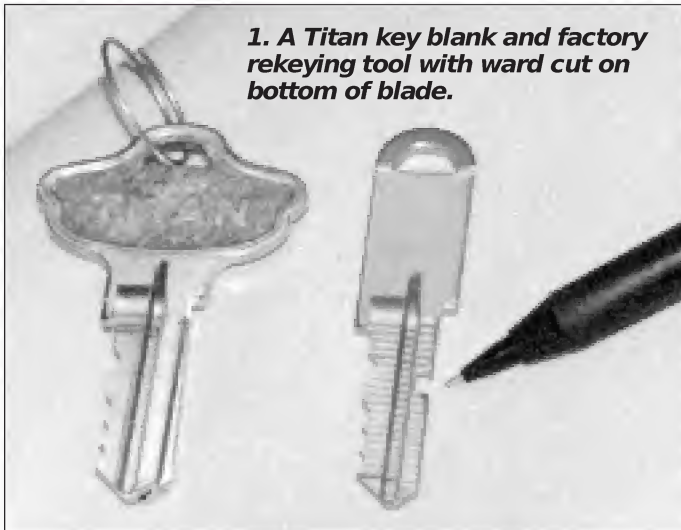


# BEGINNER'S CORNER

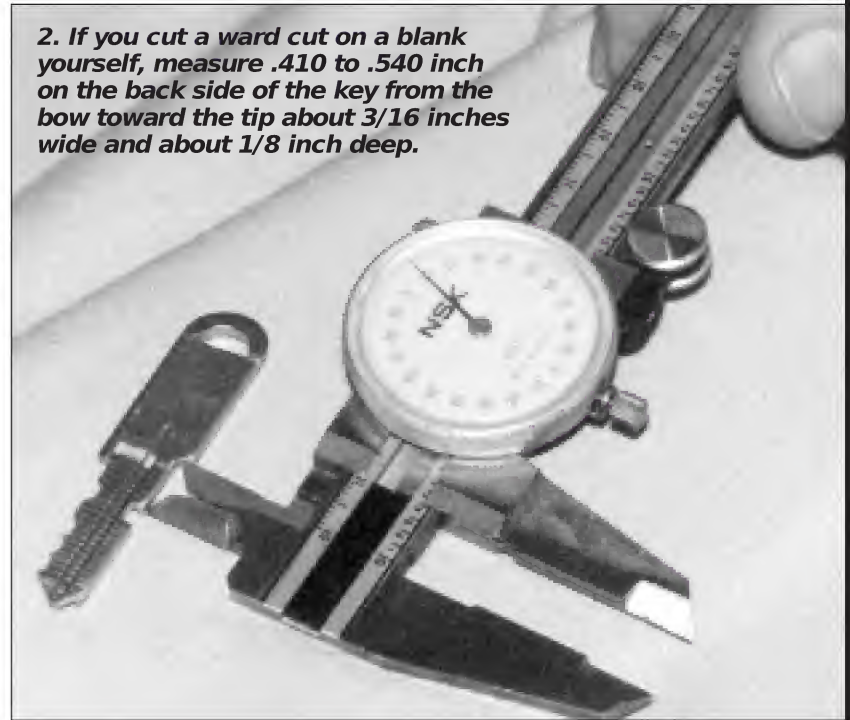
## Servicing The Kwikset Titan Knoblock Cylinder



by  
**Jim Langston**



**1. A Titan key blank and factory rekeying tool with ward cut on bottom of blade.**



**2. If you cut a ward cut on a blank yourself, measure .410 to .540 inch on the back side of the key from the bow toward the tip about 3/16 inches wide and about 1/8 inch deep.**

**S**ervicing a Kwikset Titan knoblock number 740H, is not as difficult as it might seem. Kwikset locks have never been a difficult lock to service, but the Kwikset Titan line is even easier because the lock does not need to be removed from the door to service or rekey like the Kwikset line. The lock cylinder of the Kwikset Titan is front removable much like an interchangeable core lock. A slight modification to the operating key will remove the lock cylinder from the knob without removing the entire knoblock from the door.

you impression the lock, you must have a ward cut (slot) on the back side of the key blank to remove the cylinder. You can either file a slot in a blank, or you can get a pre-slotted blank (called a rekeying tool) from the dealer or your distributor. Your distributor should have them in stock. *Photograph 1*, shows the Titan key and a factory rekeying tool on the right.

### Key Preparation

If you cut a ward cut on a blank yourself, measure .410 to .540 inch on the back side of the key from the bow toward the tip about 3/16 inches wide and about 1/8 inch deep (*Photograph 2*.) If you are rekeying the lock and have a customer's operating key, you

### Titan Specs

The Kwikset Titan knoblock number 740H, comes standard with a six pin cylinder as opposed to a standard 5 pin cylinder for Kwikset. If you encounter one of these locks on a door and you don't have an operating key, you can open it by picking it or by impressing it. If you pick it open, you should pick it counter-clockwise a quarter of a turn. By doing so, the cylinder can then be removed from the knob housing for servicing. If



**3. To remove the cylinder, turn it a quarter turn counter-clockwise and pull the lock cylinder out.**



4. After you have the cylinder out of the lock to rekey, first remove the horseshoe shaped clip on the end of the plug.



can cut a slot on the back of the key in the same position to remove the cylinder for rekeying. Also, when you rekey this lock, you need to have a key with a slot in it to put the cylinder housing back in the lock.

#### Removing The Cylinder

Once you have your rekeying tool fabricated, turn it a quarter turn counter-clockwise and pull the lock cylinder out (Photograph 3.) After you have the cylinder out of the lock to rekey, first remove the horseshoe shaped clip on the end of the plug (Photograph 4.) Then take a pair of

needle nose pliers and remove the wire spring on the side of the lock where the retainer is (Photograph 5.) That retainer is what holds the cylinder in the

tool and remove the plug from the cylinder housing as seen in (Photograph 7.)

#### Cylinder Reassembly

When you are through rekeying the plug, place the plug back into the cylinder housing using your rekeying tool (key with slot in the back.) Holding the lock in the upright position, replace the horseshoe shaped clip on the back of the lock. Now with the rekeying tool (key with slot), turn your key 90-degrees counter clockwise. Now



5. Take a pair of needle nose pliers and remove the wire spring on the side of the lock where the retainer is.

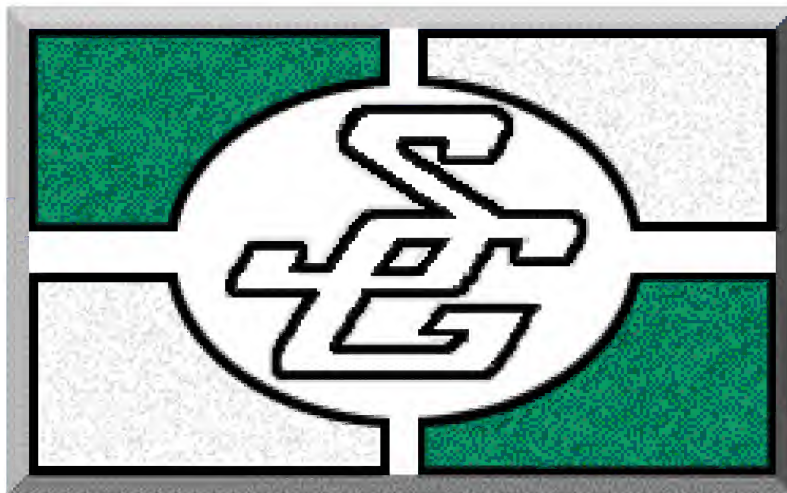
lock housing. Keep one finger on the retainer when you remove the spring from the side of the cylinder and lay both the spring and retainer aside (Photograph 6.) The plug can now be removed to rekey. Take a following

you can replace the wire spring and retainer. Put the retainer in the side. It should be flush with the cylinder housing. With your needle nose pliers, insert the wire spring in the side. It will not go in all the way. You must

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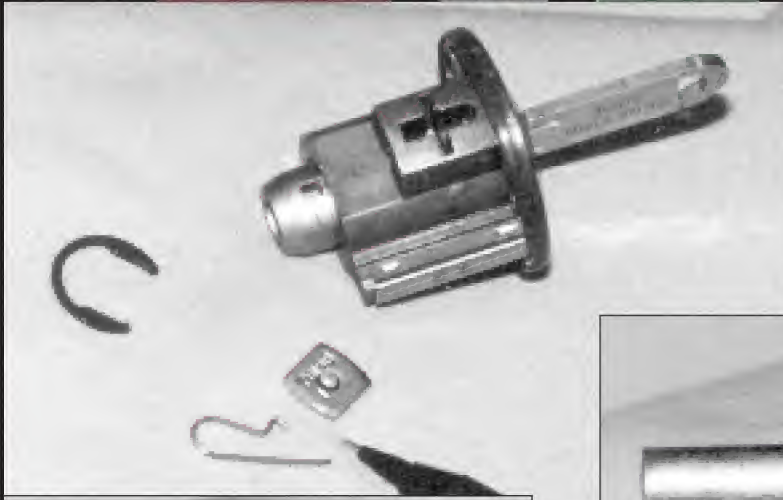
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push down on the top of the wire spring to make it snap into position. Once this is done, you are ready to

tool (key with the slot) to your customer because they will not need this key.

**Closing Comments**

The Kwikset Titan line is a vast



6. Keep one finger on the retainer when you remove the spring from the side of the cylinder and lay both the spring and retainer aside.



7. Take a following tool and remove the plug from the cylinder housing to rekey.

put the cylinder into the knob lock body. Once it is all the way in, rotate the key back ninety degrees clockwise and remove the key from the lock.

**NOTE:** Do not give the rekeying

improvement over the standard Kwikset lock hardware, not only in service ability, but in construction as well. Once you service or rekey a Titan lock, you won't want to work on a Kwikset again.

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# The 1996 Reader's Choice Award Winners



## Introduction

Once again it is time to present the products you feel are the best in their class. This is the second year *The National Locksmith* has presented the **Reader's Choice Awards**. Last year's first **Reader's Choice Awards** created such a response, we decided to make this an annual event.

The company names presented here are a reflection of your vote for the best in each category. There are a total of 55 companies and related products that you feel deserve recognition for outstanding quality, service, and design.

*The National Locksmith* extends its congratulations to all who have been granted a **Reader's Choice Award**. The top five vote recipients follow in alphabetical order: HPC, JET, MAG, MEDECO, SCHLAGE.

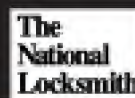


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## Access Control

### Reader's Choice Awards



#### Corby System 2 Two Door Access System

The Corby SYSTEM 2 supports up to 485 users and each user can be added or deleted in seconds using the built-in programming keypad and 48 character Liquid Crystal Display. The programmable relays can control almost any device including electric door locks, arm or disarm alarm systems, shunt alarm devices, or garage doors.

Users can access a secured area using Keypads, Card Readers, or Data Chips. A Request-To-Exit button can be used to exit an area and magnetic contacts can be installed to report door ajar conditions.



#### International Electronics Secured Series Touch Reader

The newest member of the popular DoorGard Secured Series access control products, the Touch Reader uses reliable Dallas Semiconductor Touch Memory technology and incorporates a rugged, stylish, backlit, weatherproof housing. A built-in sounder confirms that a "token" has been read and access is visually confirmed or denied by green/ red backlighting.



## LOCKNETICS

Security Engineering  
a HARROW company

#### Locknetics' TouchEntry Access Control System

The TouchEntry Access Control System is a great alternative to card systems, providing access with a touch of a 64 bit microchip data key.

Each controller can accept up to 500 programmable individual codes and a 500 event audit trail. Programming and interrogation may be accomplished with any DOS based portable computer.



#### Securitron DK-26 Digital Keypad System

Introducing the new DK-26 series keypad system for medium to high security locations. Using the extremely durable water-proof, narrow stile door frame size, cast stainless steel keypad technology from its previous version, the DK-26 incorporates a significantly upgraded central processor unit with features such as: True 10 digit keypad operation, Non-volatile EEPROM memory, Sixty codes programmable from keypad, Programmable LED's and Beeper, Exit request input (REX) and more.



## Automobile Locks

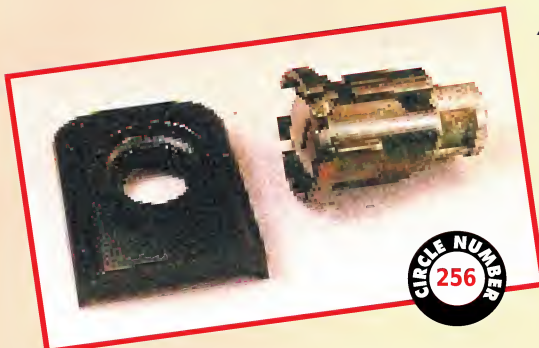
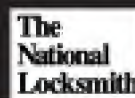
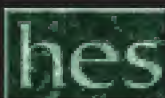
### Reader's Choice Awards



#### All-Lock VATS Decoder

All-Lock has a VATS Decoder Update Cylinder which converts the A7000 VATS Decoder to read both single and double sided VATS keys. In addition, the LT7007 key adapter harness assembly allows the locksmith to decode any VATS system working through the ignition, eliminating under the dash work on virtually all VATS jobs. Disposable A7004 single side and A7005 Double Side plastic keys eliminate the use of a brass key.





#### ASP Auto Lock Supplies

Well known for supplying a thorough range of service parts for Asian and European car locks. ASP now extends to American Ford lock service parts. ASP supplies six different styles of 10-cut service ignition locks, including the new style for Contour and Mystique. Also available is a complete range of 10-cut door lock unassembled service packages, including lighted keyhole types. Your ASP distributor has American Ford parts which have never before been available to the locksmith. ASP American Ford locks are included in the 1995 Lock Application Chart Catalogue 15A.



#### STRATTEC Passive Anti-Theft System (PATS)

Taurus SHO and LS and the Mercury Sable LX, proves that high tech auto locks can improve vehicle security without sacrificing ease of service. PATS uses a transponder in the head of the key, a column-mounted antenna and the car's control module. No special tools are needed to service PATS. For a new or replacement key, locksmiths simply use an eight-cut key, then program its unique transponder code into the control module with a sequence of ON/OFF turns of the ignition. Lock replacement is just as easy.

## Deadbolts and Knoblocks

### Reader's Choice Awards



#### Arrow E60 Series Deadbolt

The Arrow E60 Series deadbolt is designed and manufactured for durability, security and to meet the requirements of Grade 2 hardware. The deadbolt meets demands of residential and commercial applications where a 1-inch solid steel deadbolt, 1/4 inch steel thru bolts and solid brass cylinder are needed. The unit also features a security strike and interchangeable cores. Solid brass cylinders feature the Arrow "A" keyway, drilled for six pins, pinned to five for stock, six pin for masterkey systems.

#### Kwikset Titan

The Grade 2 Titan deadbolts feature an extra large interior turnpiece for easier locking and unlocking. The deadbolt achieves ANSI A156.2 Grade 2 rating, the highest residential grade possible, and carries a full 50-year mechanical and 10-year finish warranty. Compatible with Kwikset's 5-pin keying system, Titan features a heavy gauge strike with extra long 3-inch screws to fit most doors.



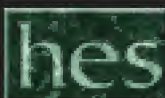
#### Lori Deadlocks And Cylinders

One of the more venerable companies in the production of deadlocks, cylinders and keyways, continues to extend its line of security hardware for the locksmith and building trades markets.

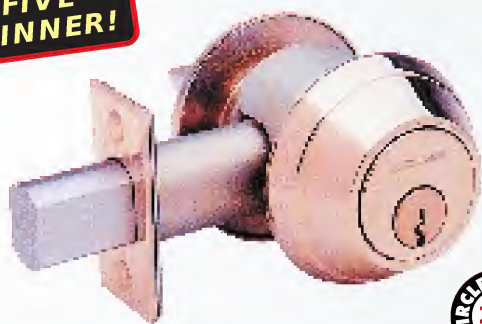
Both Lori Models 4500 Standard and 4900 Low Profile Deadlocks accept any AR cam mortise cylinder, standard, I.C., or high security cylinder. In short, these deadlocks allow easy retrofitting into virtually every manufacturer's key system. From Best and Schlage I.C. locks to Medeco and Assa High Security cylinders. Lori Deadlocks allow

instant replacement, and a simple, fast solution to security problems. Lori also supplies the industry's largest range of keyways -29 in all - to fit the door hardware of every major American manufacturer.





**TOP  
FIVE  
WINNER!**



#### **Schlage's B660 Deadbolt**

The new, super-strong B660 deadbolt lock was named a Consumer Digest "Best Buy." The Schlage B660, shown here in a satin chromium-plated finish, was chosen as the Best Buy deadbolt in the midrange price category; that category denotes products that offer "many popular features and good performance" priced below the most expensive lines. Schlage's B-Series heavy-duty deadbolts were designed to provide state-of-the-art primary and auxiliary lock protection for commercial, institutional and industrial applications.

## **Door And Lock Reinforcers**

## **Reader's Choice Awards**

#### **Don-J o Wrap Around**

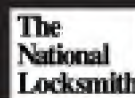
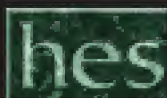
The CW series is crafted from the highest grade of materials available. All classic wrap arounds are made with .038 thick material for extra strength. Also, all versions come with built in stainless steel threaded inserts. Designed to achieve maximum holding power, the inserts help prevent the latch screws from loosening even when there is extensive damage to the door. There are over 50 versions available to choose from ranging in sizes from 4-1/2" up to 20" and designed to work with a multitude of locks.



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**TOP  
FIVE  
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**CIRCLE NUMBER  
263**

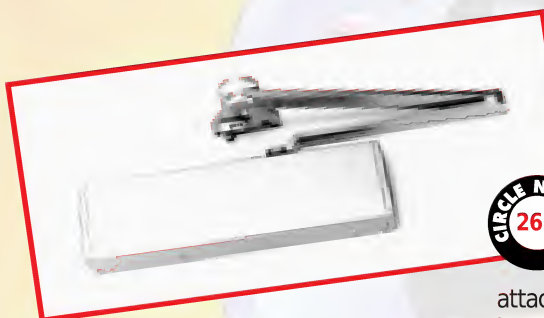
#### **M.A.G. INSTALL-A-LOCK**

INSTALL-A-LOCKS by M.A.G. are pre-formed to accept all key-in-knob locksets. They are designed to cover split, scratched, and misdrilled wood and metal doors. These door reinforcers more than double door strength and help prevent kick-in attacks by mounting the lockset and latch into one solid metal unit.

## **Door Closers**

#### **LCN 4041 Door Control**

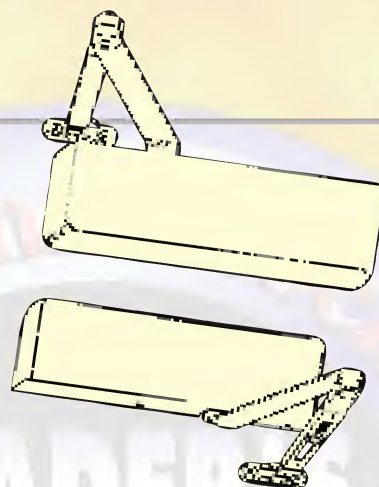
The LCN 4041 has redefined door control. There is no better combination of lasting quality, performance, aesthetics, and value. This closer features a heavy-duty cast-iron cylinder, adjustable spring power from 1-6 to meet ADA opening force requirements, universal mounting options, a durable powder-coated finish and a 10 year warranty.



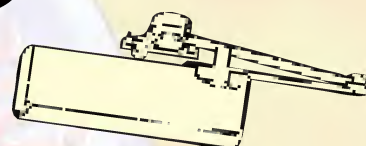
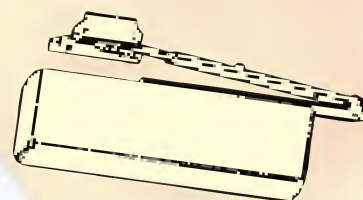
**CIRCLE NUMBER  
265**

#### **Yale 51BF Closer**

The 51BF series closer is adjustable from sizes 1 through 4 for use on interior doors requiring less than 5 pounds of opening force and exterior doors up to 42" wide to comply with handicapped code requirements of the Americans with Disabilities Act (ADA). Yale's 51 series closers offer adjustable power from sizes 3 through 6 where high rates of closing force are required such as exterior out-swinging doors in excess of 42" wide or where internal building air pressure requires greater than normal closing forces, within code limitations.



**CIRCLE NUMBER  
264**



#### **Norton's Security Door Closers**

Norton's high security closers and arms are designed for installations where abuse, escape, personal injury or damage to doors, walls and hardware are major concerns. Fixed link arm assemblies are used on all mounts. Joints are permanent. High security construction features orbital riveted elbows and arm shoe/ soffit plate joints to prevent disassembly and the closer arm is attached to the frame with TORX screws. In the 7500/ 7700 series version the extruded heavy duty metal cover is attached with a four point security TORX fastening system to resist tampering with the closer body.

**CIRCLE NUMBER  
266**



## **Electric Strikes**

**CIRCLE NUMBER  
267**

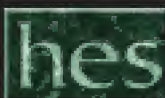


#### **Reader's Choice Awards**

#### **Folger Adam's Series 600 Electric Strikes**

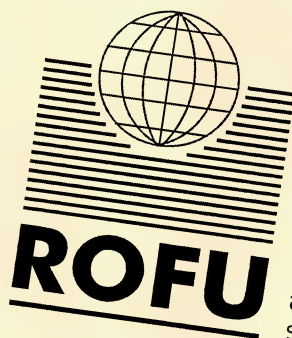
The 600 electric strike provides remote electrical control of a swinging door. It fits ANSI A115.1 prep with modification to the face of the frame and is constructed to fit narrow 1-3/4" jambs of either hollow metal or aluminum tube, and offer horizontal adjustment to compensate for door position. Fail-safe or non-fail-safe models may be specified, as well as optional indication switches to monitor strike status and lock bolts.





#### **H.E.S. 1003 SMART-STRIKE™**

This strike is the most versatile electric strike system available today. The 1003 series incorporates 23 interchangeable models with the new SMART-Pac™ in-line voltage controller and a variety of plug-in components to meet all of your security needs. The 1003 series is backed by an unprecedented 5 year warranty.



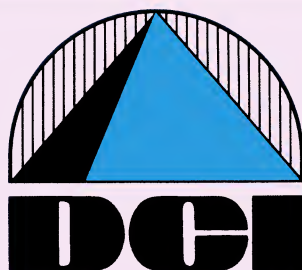
#### **Rofu 1430/3430 Electric Strike**

The series 1430/ 3430 and 1440/ 3440 electric strikes make it possible to complete metal frame installation without having to cut a good portion of the frame away. The fail secure model 1430 (Fail safe model is 3430) is specifically designed to work with Sargent, Schlage and Yale mortise locks. The fail secure model 1440 (Fail secure model 3440) works with all other model mortise locks. The strikes are available in standard voltages and faceplates are made of stainless steel.



#### **Trine Heavy Duty EN Strikes**

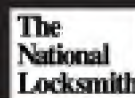
These strikes are UL approved, 1034 burglary resistant for indoor and outdoor use, and 10B fire rated ( Class A 3-hour single swing doors .) It is rated for 2,000 lbs. of holding force, 500,000 life cycles and are now fail safe/ fail secure field adjustable. Other features include stainless steel construction, an internal solenoid, and a patented rectilinear locking mechanism. The EN series strikes are recommended for the use with locks having up to a 1" throw. The new 800 strike is designed for surface mounted exit devices with horizontal adjustments and 45 degree ramps for easy installation and application.



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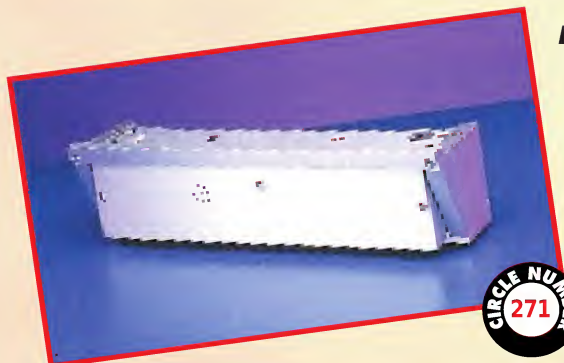
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## Electro-Magnetic Locks

Reader's Choice Awards



### Locknetics' 101+ Delayed Egress System

The 101+ Series Delayed Egress Electromagnetic Locking System is a self-contained unit, designed to meet NFPA Life Safety Code 101, while providing ongoing access controlled security. It's ideal for retrofit, operating independent of any existing exit device or door lock. Up to seven TouchEntry data keys can be programmed at one time without a separate programmer. Up to 150 keys can be programmed with a programmer. The on-board microprocessor provides for an integrated locking and access control system with plug in TouchEntry readers and Pentagon keypads.



### Securitron's Family Of Magnalock

For over 20 years, Securitron has been providing quality electromagnetic locking solutions for security/locksmith industry. Innovations include the first "E" profile lock, first instant release/ electronic noise elimination circuit, first weatherproof lock for use in outdoor situations, just to name a few. The Magnalock E line currently includes the Model 32 with 600 lbs. of traffic control holding force, the Model 62 with 1200 lbs. of Security holding force and coming soon the Model 82, with 1800 lbs. of high security holding force.



## Exit/Panic Devices

Reader's Choice Awards

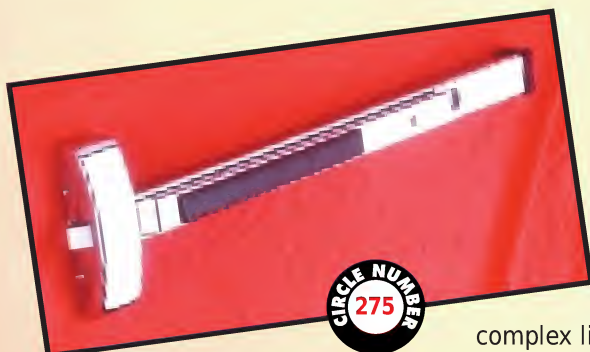


### Corbin Russwin ED 4000/5000 Exit Device

The most recent product introduction for Corbin Russwin is the ED 4000/ 5000 line of exit devices. This premium grade of products is available in all of the architectural finishes. Complimentary trim is also available for all applications including ADA. Corbin Russwin also offers a complete range of cylindrical lever locksets. Available in Grade 1 are the CL 3200/ CL 3400 and CL 3600. The Grade II offering is complete with all architectural finishes in the CL 3800.

### NT Monarch's Adjustable Concealed Vertical Rod

Introducing the first, fully adjustable-on-the-door, concealed vertical rod exit device from NT Monarch. It is precision crafted for Grade 1 heavy duty construction applications. With a simplified trim and minimal cutout required, installation is easy. In addition, the innovative design allows adjustment of the latching bolts without having to remove or rehang the door. The latchbolts have a 3/ 4" throw at the top and a 1/ 2" throw at the bottom. It is available in a traditional crossbar design with narrow stile active and inactive cases, as well as a sleek pushbar application for narrow stile and regular stile doors. The product is ANSI certified, UL approved and available fire rated.

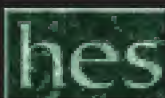


### Sargent Reversible Rim Exit Device's

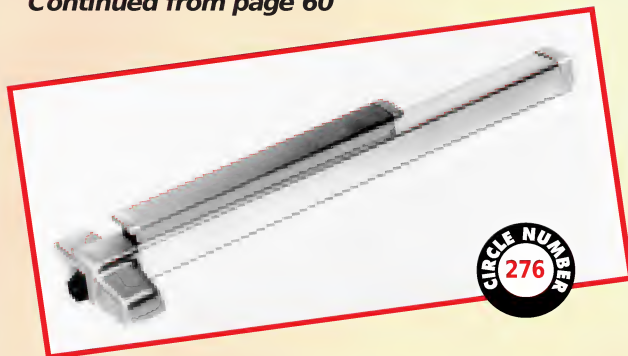
Sargent's 8888 Series reversible rim exit device allows quick and easy installation and maintenance on 1-3/ 4 inch thick wood or metal doors used for exits, stairwells, cafeterias, conference rooms and other applications. The exit device's chassis is separate from the rail, eliminating the necessity of removing the device from the door for standard maintenance or keying changes. The chassis' heavy cast construction distributes the impact load on the door surface. In addition, its simple lever action design eliminates complex linkage and numerous internal parts. The 8888 is available with all standard and non-standard Sargent cylinders and removable core, and has through-bolted outside trim, stainless steel latchbolt, and a 3/ 4 inch throw.







Continued from page 60



CIRCLE NUMBER  
276

#### Von Duprin Series 98/99 Touchbar Exit And Fire Devices

The Von Duprin Series 98/99 exit and fire devices combine modern touchbar styling with the durability needed for heavy traffic installations. Wide variety of configurations available includes rim, mortise lock, surface and concealed vertical rod mountings. Options and accessories include electric or pneumatic latch retraction, signal switch, request-to-exit, latchbolt monitor, electric mortise lock, electric device, exit alarm kit, and glass bead conversion kit. Available as UL-listed Panic Hardware or Fire Exit Hardware, as well as similar Series 900, fully encased in high-grade stainless steel.

## High Security Cylinders

## Reader's Choice Awards

### ASSA V-10

The introduction of their new V-10 cylinder is the latest in high security. Designed with features to protect against forced entry, new Twin V-10 has two utility patents pending, protecting the blanks against unauthorized duplication. "The new V-10 is truly on the cutting edge of high security, not only from a design perspective, but the patent and keying capabilities are the best in the industry," said Michael J. Crowder, National Sales Manager. The Twin V-10 is UL 437 listed to resist picking, drilling and prying. The hardened steel inserts, mushroom spooned pin tumblers protect the V-10 from all types of tampering.



CIRCLE NUMBER  
277

### Medeco® High Security Cylinder Tops Reader's Choice Category (Again)

In our quarter of a century preventing burglars, Medeco has found that their biggest enemy is time. Each extra minute they take on a break-in increases their chances of getting caught. That's why Medeco designed a high-security cylinder with specific features that resist things thieves do to gain entry. Medeco's patented Biaxial system means it's virtually impossible to make it an authorized "copy key." Medeco cylinders have hardened steel inserts to protect against drilling. And Medeco's double-locking action makes our locks virtually pickproof. So, when thieves see Medeco on the door, they decide it's not worth the risk.



CIRCLE NUMBER  
278

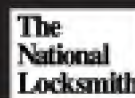
### Schlage Primus

Pictured is Schlage Lock Company's Primus high security system, consisting of a special dual-locking cylinder that has two sets of combining pins triggered by one key. The Primus key, which only Schlage is patented to produce, is unique in that it has both top and side "cuts" (specially engraved in the side of the key). The top cuts allow the Primus key to open standard locks. When coupled with the side cuts, it allows the key holder to open Primus cylinder locks. Primus cylinders are available in standard or U.L. listed (drill-resistant).

CIRCLE NUMBER  
279







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Innovation  
You Expect,  
with the  
Flexibility  
You Need!

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Continued from page 64

## Key Blanks

Reader's Choice Awards



### Ilco LOOK ALIKE

The LOOK ALIKE line of key blanks from Ilco Unican feature precision engineered accuracy in millings, backrounding and material thickness. The strict adherence to the manufacturer's specifications has gained a greater customer acceptance of LOOK ALIKE key blanks. Many leading manufacturers rely on Ilco Unican for their original keys. Quality originals...original quality, when you purchase Ilco Unican keys you can be assured of the highest quality backed with over 75 years of experience.



### Jet SILVER Line

Jet's Silver Line keys are guaranteed to be consistently superior to the original manufacturer's production. Last year, Jet expanded the line by adding the Sargent R series, Kwikset's Titan, LeFebure Safe Deposit along with several other popular commercial and institutional keyways.

Jet is proud to bring to the locksmith the largest selection of the nickel silver keys, simulated in design to original equipment. The numbering scheme is similar to originals with few exceptions.



TOP  
FIVE  
WINNER!



### Silca Keys U.S.A.

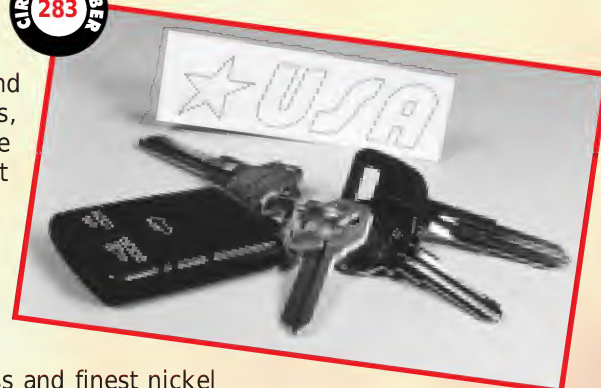
Silca keys are the standard of the industry. Before any blank is ever made, Silca engineers design milling cutters, blanking dies and embossing dies to the 226 year old key blank company's' exacting standards. A complete line of blanks are produced including standard U.S. commercial and automotive lines. Foreign auto blanks for all makes, including rubber head, the new transponder technology and high security numbers are all standard production products.



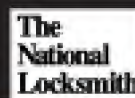
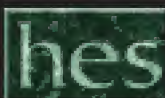
### Star Key Industries

Star Keys stand for quality and value. In the past several years, Star Key Industries has made tremendous strides in product improvement, while maintaining its everyday low price policies for the benefit of the locksmith. Innovations have included artistic textured designs on keyheads; crisp, clean and bright coinings; the purest brass and finest nickel

plating; and exciting new key offerings, including plastic heads and Mercedes, BMW, and Lexus keys. Star's numbering system offers an easy system to key identification, with corresponding competitor numbers also provided.







## Key Machines

## Reader's Choice Awards



CIRCLE NUMBER  
284

### Framon #2 Code Machine

The Framon #2 Code Machine has been a staple in the industry since its inception in 1971. Some of the features of the #2 include accuracy to .0005", all steel and aluminum construction, as well as a complete key cutting package. Included with the #2 are four cutters, five spacing blocks, and Framon's Depth & Space Manual, which covers almost every cylinder key in use today. Also included with the machine is a

demonstration video which illustrates cutting procedure on the entire Framon line. A one year, parts, labor and freight warranty are included with every Framon key machine.

### HPC's Blitz

HPC's 1200 CMB Blitz is the upgraded version of the 1200C Code Machine. It has been on the market for over two years and now outsells its predecessor. It works the same as the 1200CM, but has several added features. Both the depth and spacing shafts have fewer threads per inch, meaning that substantially less revolution are needed to achieve the full range of travel. Other added features include a flip gauge that is more visible and easier to grasp. Plus, the Blitz is equipped with HPC's Softie deburring brush with a safety shield. The Blitz comes with 120 code cards. This revolutionary code milling machine has made all other obsolete and is now the "Standard of the Industry."



CIRCLE NUMBER  
285



CIRCLE NUMBER  
286

### Ilco Key Machine

The 024A is a superbly crafted machine designed for fast, accurate key duplicating. Featuring a single angle cutter and guide, the 024A duplicates GM and Titan keys without the need for additional filing. Lever operated, the 024A duplicates keys with ease and its 4-way "super jaw 2" vise jaws securely grip both commercial and automotive keys without the use of adapters.

CIRCLE NUMBER  
287

### Silca Bravo Key Machine

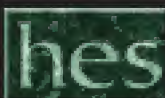
Silca's Bravo key machine has been designed and built to exacting standards. At the factory eleven generations are routinely duplicated as an accuracy check. The bravo is fully featured with four way jaws to hold almost any key that might cross your counter. A large high speed milling cutter handles deep cuts in nickel silver as well as brass. The ergonomically designed lever assures easy and fast key travel across the cutter. A micro switch allows for automatic cutter start when the key is lowered to the cutter. This is the highest rated key machine on the market today.



**HPC, Inc.  
Designing  
Excellence  
and  
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Quality since  
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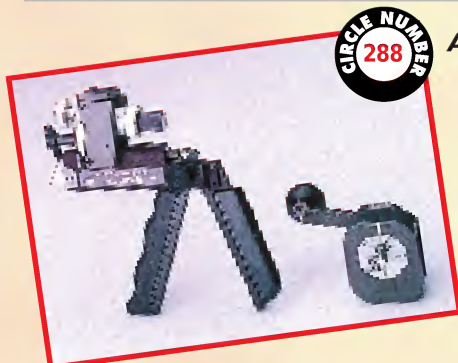
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## Locksmith Tools

### Reader's Choice Awards



CIRCLE NUMBER  
288

#### A-1 Security Manufacturing

A-1 Security Manufacturing Corp. manufactures several hand-held, manually operated key machines. Developed almost twenty years ago, the Herty Gerty continues as a mainstay for many locksmiths. The Herty Gerty code cuts #137 standard blanks Large, Small, Offset Left and Right. Cuts Pin within a pin and a tubular key decoder is included. A-1 also manufactures the PAK-A-PUNCH™ hand-held code cutters. Model PAK-1 is a dedicated punch machine for I-Core systems A2, A3, and A4. Model 3 is a universal punch machine for domestic and foreign automotive, Schlage and Kwikset.

#### HPC's Pocket Sized Decoder

HPC's Pocket Sized Decoder (HKD-75) is unlike anything else on the market. It determines the original factory depths of keys for most popular domestic pin and disc tumbler cylinders and automotive locks. It is ideal for giving the correct bottom pin size when re-keying new or worn cylinders. Also an effective time saver when used with precision color pin assortments or original pins. Simply insert the correct information card into the slot of the decoder. Lowering the depth pin into each cut will indicate the correct depths in the window at the top. Each of the 112 included information cards lists the correct factory depths and space specifications. The decoder comes in a hard plastic carrying case.

TOP  
FIVE  
WINNER!

CIRCLE NUMBER  
289



CIRCLE NUMBER  
290

#### PRO-LOK'S Blue Punch Key Machine

The Blue Punch is available to cut Schlage, Best/ Falcon IC-A2, Kwikset, Weiser, Weslock, Master (Dexter) and most Corbin System 70 keyways.

The ability to generate "original" keys (not duplicates) as needed allows you to issue your customer accurate, first generation keys on a simple rekey. It also quickly generates extra original code keys for a master key system as you service each door on the job site. In a matter of 5 to 10 seconds, an original code key has been generated. It's quick, easy and accurate. Position it, punch it, and present it to your customer, period.

#### Tech-Train 4004A Vats Interrogator

The Tech-Train 4004A interrogator/reader is the smallest full-functioned interrogator/reader on the market. This tool allows the locksmith to perform all of the operations necessary to service the VATS/ PassKey system quickly, easily and reliably. For key duplication, the resistor value of both single and double sided VATS keys can be read in seconds without an adaptor. The Tech-Train 4002, VATS ByPass adaptor, that is supplied with the interrogator allows the locksmith to interrogate any VATS equipped vehicle directly through the ignition lock. Use of this adaptor eliminates the need to access the under-dash wiring, and can greatly reduce the length of time required to do the job.

CIRCLE NUMBER  
291



## Padlocks

### Reader's Choice Awards

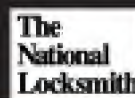


CIRCLE NUMBER  
292

#### ABUS Lock U.S.A.

Another improvement to the widely accepted 83/ 45 Z-Bar Rekeyable Lock System. The new improvement of "Stainless Steel Locking Balls" was made in response to the numerous request by locksmiths around the country. Combining this new improvement for outdoor applications with the ease of rekeying and quick change shackle feature, provides the most flexibility in a rekeyable brass padlock. The Z-Bar feature provides the quick change feature from key retaining to non-key retaining, dramatically reducing your inventory.





Continued from page 68



CIRCLE NUMBER  
293

#### Almont Lock Company Padlocks

The Almont Lock Company has been producing quality padlocks for over 30 years. The body of the padlock is made of solid brass and precision machined with features built into it that locksmiths and consumers both look for. The padlocks are easily re-keyed using standard pinning and also have several different keyways. They are key retaining in design and have different shackle lengths for various applications.

CIRCLE NUMBER  
294



#### American Lock 700 Series Padlocks

American Lock Company has improved its popular Series 700 padlocks to allow shackles to be changed using common locksmith tools. This important new feature lets locksmiths service American's top-selling, solid steel padlock quickly and easily without drilling. In the new Series 700 locks, a single dogpoint screw gives access to the shackle. Locksmiths can simply use a 1/8" Allen wrench to remove and change a shackle from one length size to another. Both 1" and 2" shackles are available for Series 700 padlocks. While servicing the lock is easier than previous pin construction, padlock security is not compromised by removing the screw alone.



CIRCLE NUMBER  
295

#### Master Lock Pro Series™

Master Lock Company's line of Pro Series™ rekeyable, commercial padlocks provide convenient cylinder and keying options. Pro Series padlocks are compatible with:

- Best and Best-compatible interchangeable cores.
- Medeco high-security cylinders.
- Numerous commercial door hardware cylinders, including Master door hardware, Schlage C through L, Arrow, Weiser-Falcon, Kwikset, Corbin 60/59 and Yale #8. In addition, Pro Series padlocks feature shackles of hardened BORON alloy steel, dual steel ball-bearing locking and solid iron shackle shrouds on high-security padlocks. Pro Series padlocks are protected with tough thermoplastic covers and feature flow-through debris channels that keep contaminants from jamming the lock mechanisms.

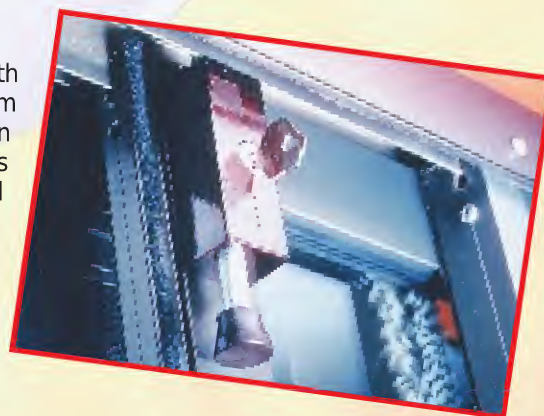
## Patio Door Locks

## Reader's Choice Awards

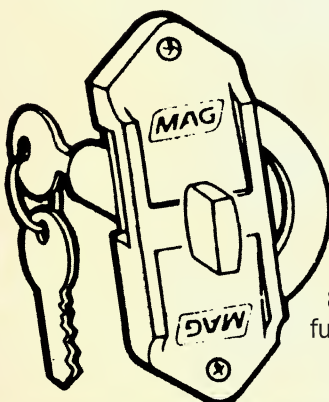
#### Emtek Patio Bolt

The 206 High Security Patio Bolt by Emtek is a surface mounted Patio Bolt with hidden screws. It can be installed edge or face mounted at either the top or bottom of the door. The lock is a rekeyable five disc cylinder that can be keyed alike in groups, and keyed alike with other Emtek window products. Four decorator colors are available. The lock is packed with a strike plate, screws for both wood and aluminum doors, and a set of color matched screw plugs. The bolt is reversible for greater installation versatility. A non-keyed model is also available.

CIRCLE NUMBER  
296



CIRCLE NUMBER  
297



#### M.A.G. 8300 Patio Door Lock

The 8300 Patio Door Lock by M.A.G. fits 7/8" to 1-1/4" thick doors. Three strikes are included to accommodate different jams. They are also hardened to resist cutting. A loop style deadlock prevents lift-out and features a unique vent link. The 8300 features a thumbturn inside/ cylinder outside. Other functions are available.





### Major Manufacturing Octopod

The 5002 series Octopod by Major Manufacturing, is a surface mounted deadbolt that can be installed on the door rail as narrow as 1-5/8". This makes the Octopod ideal for locking sliding aluminum doors, windows, French doors, and more. Octopod is packed with both philips-head and one-way security screws. Using a standard 1-1/8" mortise cylinder, Octopod may be keyed to almost any locking system. Case size is 1-5/8" wide by 2-13/16" high, over all length of locking rod is 9". Other models with longer rods and double rod models are now available.

## Push Button Locks

## Reader's Choice Awards

### Simplex Access Controls Series 1000

This line of push-button locks is a fully mechanical lock designed where keyless access control is required. The mechanical design eliminates the need for batteries or running wire. Trouble free performance and care free durability. Available in knob as well as lever design. The new Series LP1000 (Lever/ Panic) is designed for new or existing surface mounted exit/ panic devices.



### TRILOGY DL2500 SERIES ALARM LOCK

The Trilogy Series is keypad programmable and its unique, patented features include 3 security levels: master (1 code), management (1 code), and user (15 codes), with programmable entry allowances ranging from 5 - 20 seconds. With innovative individual, group, or total user code lockouts, you have the power to temporarily, or permanently, disable/ change access codes. A one-time, emergency access/ service code permits access once and then automatically erases, further contributing to peace of mind in home, business, or institutional security.



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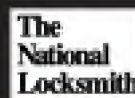
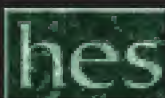
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## Safes

### Reader's Choice Awards



#### AMSEC BF Series Safes

AMSEC's BF series lets you take advantage of an age old problem, offering the industry's first affordable solution when Burglary and Fire protection are an essential part of your customer's buying decision. The BF series is offered in three different sizes. The two smaller sizes carry a U.L. Listed 1 hour fire label and the larger size carries a 1 1/2 hour U.L. listed fire label. All models are B-rate heavy duty construction.

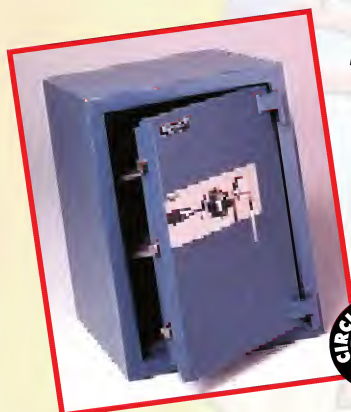


#### Gardall Model 1511

The Model 1511 is a versatile safe that provides ample fire protection, with many additional burglary features that are offered on our higher security products. The burglary features include:

1. Shear Point Handle
2. Independent Relocking Device
3. Full Length Locking Bar on the Hinge Side of the Door
4. Heavy Duty 1/4" Hinges
5. Available with a U.L. Group II Combination or Electronic Lock

The model 1511 has been chosen as a "Best Buy" by Consumer Digest, as well as one of the top five products in the 1995 National Locksmith "Top 100 Reader Choice".



#### Meilink Safe Company

Now you can get a full line-up of composite safes for Meilink with double security backed by UL certification. Each safe now gives you double the benefit of tool-resistant security and fire protection in one safe. They all carry both Underwriters Laboratories Class 350 1 hour or 1/2 hour fire rating- and Underwriters' Laboratories TL-30 or TL-15 rating for burglary resistance. They are the ideal recommendation for any serious commercial application as well as any place where the protection of valuable records is an issue.



## Window Locks

### Reader's Choice Awards



#### Emtek Window Bolt

The 203 Window Bolt by Emtek is a versatile window lock that can be used on casement, awning, and sliding windows. The pin pushes in to close. Use the key to lock or unlock. Two brass keys are provided. The five disc cylinder can be keyed alike in groups, and keyed alike with other Emtek window locks. This series of lock is available in four decorator color.



#### M.A.G. 8830 Sliding Window Lock

The new model #8830 Sliding Window Lock features three locking positions: closed, 3" vent, 10" vent. Uni-chrome plated for lasting protection. This product also provides child-proof attachment with security set screws. Easy installation with no tools required. This product is patent pending. Accept no substitute.





# *better* **Sales,** *better* **Security,** *better* **Profits**

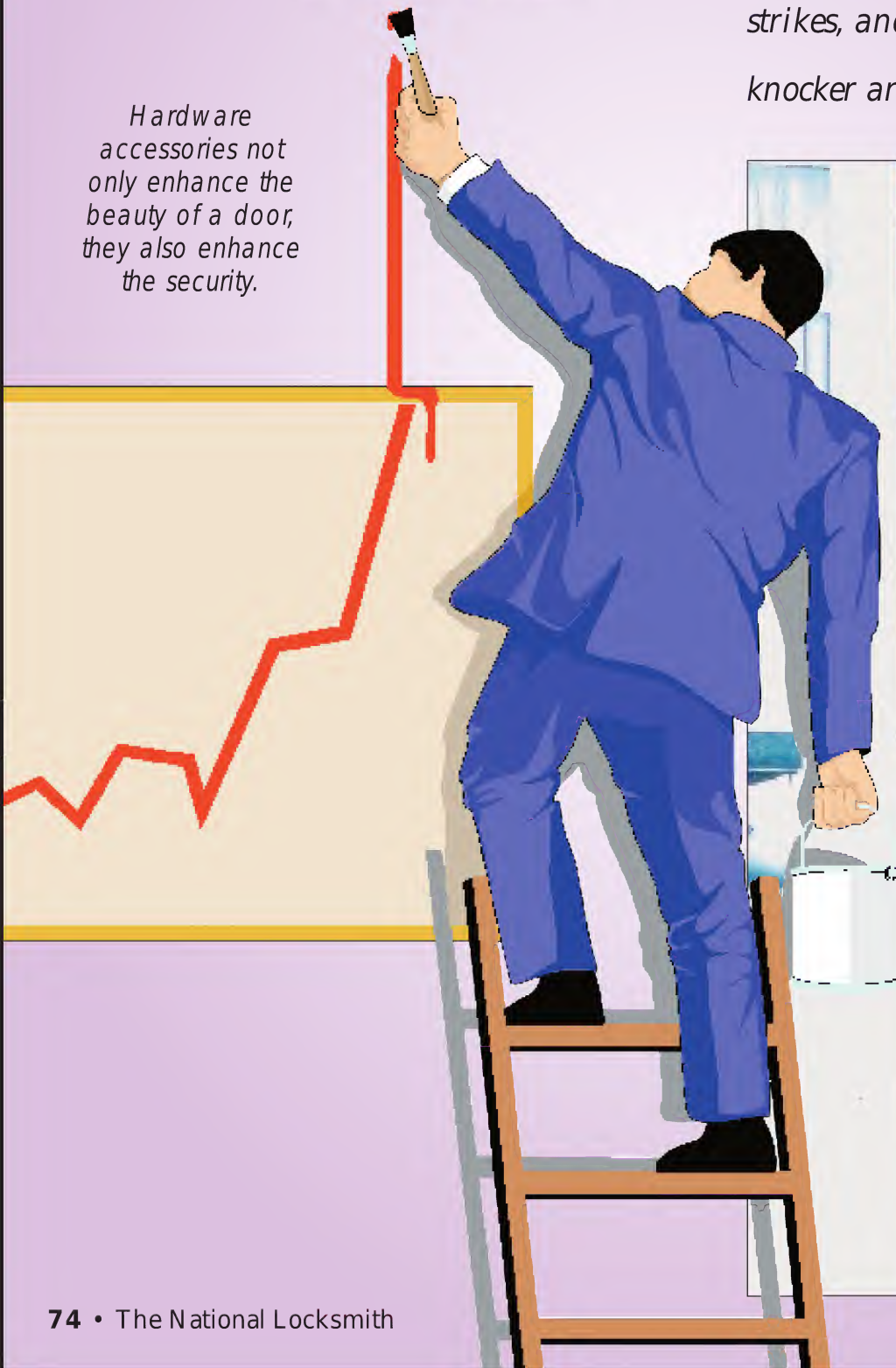
Hardware accessories not only enhance the beauty of a door, they also enhance the security.



by  
**Giles  
Kalvelage**

What's better than rekeying two or three cylinders on a single door? Rekeying two or three cylinders on a single door, plus, adding a

peephole, wrap around plates, heavy duty strikes, and for pleasure's sake, new door knocker and kick plates!



**1. Inside and outside view of the door before installing hardware.**



A wise man once said, "Sell a person what they need and you'll never go hungry. Sell a person what they want, and you'll be a rich man!" While a homeowner may call you out to increase their security once they move into a new home, you should not stop at rekeying the door or installing a deadbolt. This pictorial will demonstrate how you might add a few dollars to your bottom line while increasing both the security, appearance and value to your customer's home. Homeowners like security they can see and hardware which adds to the appearance of their investment.

Upon arriving at the door, we find that the overall security was good. A popular grade 2 lockset and a double cylinder deadbolt was already mounted on the door. *Photograph 1*, is the outside and inside of the front door. While rekeying these cylinders will assure that whoever may have had keys to this previously will now be denied access, to increase the security of the door, we reinforced the wooden door at both the deadbolt and lockset by installing MAG Door Reinforce Plates. Even though the edge of the door was not damaged, these wrap-around plates will strengthen the door around

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**2. Installing MAG Door Reinforcer Plates.**

In *photograph 3*, the 2-SS Series Strike was added at the lockset, (list price about \$5.15.) In *photograph 4*, the 2-SDS Series strike was added for the deadbolt, (list price of about \$4.85.)

Both strikes come with three inch mounting screws to attach through the jamb into the frame of the house. When installing the strike into a jamb with a window, make sure that you have enough room to install the long screws. If not, most have at least two layers of material, wood and/ or metal. Replace the three inch screws with screws long enough to reach into, but not through, both layers of material.

Even though there was a window on the side of the door, we still went ahead and installed a Security Scope door viewer, (list price about 9.95.) This viewer is easily installed by drilling a single 9/ 16" hole through the door. Because this was a paneled door, we mounted the viewer on the frame portion of the door. Mounting directly on a panel would not allow the required thickness for tightening the viewer.

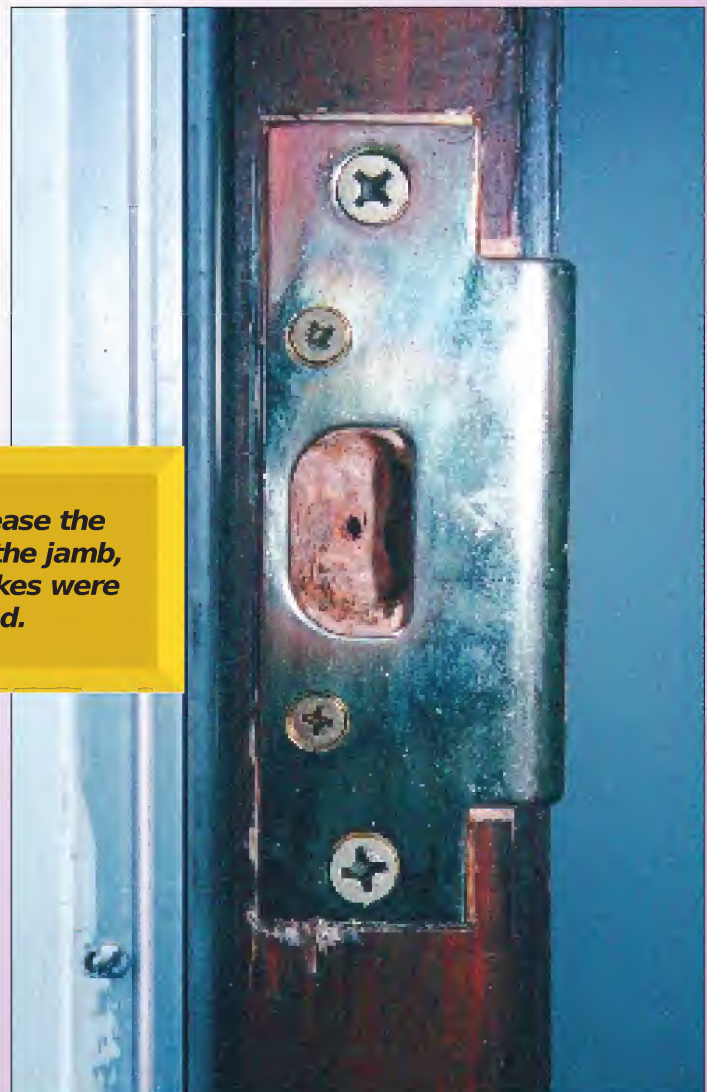
the locks if ever there is a forced attack against the door.

The 2002-PB (list price about \$17.95) is shown around the knob lock while the 2061-PB (list price about \$11.45) is shown around the deadbolt in *Photograph 2*. This particular model lays flat against the door edge eliminating the need to mortise the door at the latch to accept the plates.

The existing deadbolt strike had been hand filed to accept the bolt as the wooden door fell prey to minor warpage. The jamb also had some minor, mainly aesthetic, cracks. To increase the security of the jamb, Don-J o strikes were added.



**3. To increase the security of the jamb, Don-J o strikes were added.**



*Continued on page 78*



*Continued from page 76*



**4. A Don-Jo 2-SDS Series being added for the deadbolt.**

A Baldwin door knocker with lifetime finish warranty, (list price about \$55.00) easily replaced the existing knocker. We did need to re-drill one hole, but the Baldwin knocker covered the existing hole and greatly enhanced the look of the door (see Photograph 5.)

Finally, to increase the overall beauty of the door, we installed Don-Jo kick plates on both the inside and outside of the door. The outside kick plate is brass plated aluminum (list price about 12.78) to resist weathering, while the inside plate, KP8343, is solid brass (list price about \$30.46) Installation was as easy as holding the plate against the door, marking the holes, pilot drilling and attaching with the screws provided.

All in all, these items should take about an hour and a half to install. You'll be pleased to see what a great job you've



done, your customer will be pleased because this is actually one security improvement that can actually be seen. Photograph 6, is an inside and outside view of the finished door.



**5. A Baldwin door knocker with lifetime finish was added.**

As you can see, the overall appearance of the door was greatly improved, not to mention the considerable increase in security. Installing additional hardware security accessories can greatly increase your bottom line profits, while also instilling peace of mind for the customer. It does require a little selling savvy, but its worth it.

*Continued on page 82*



Continued from  
page 78

6. An inside and  
outside view of the  
finished door.



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# Vindicator MicroLock Series



by  
Dale W. Libby

With time delay, audit trail, multiple user codes and time zone capable locks being demanded, electronic locks are the only logical choice.

<p>1</p> <p>Enter your combination</p>	<p>2</p> <p>Insert your key</p>
<p>3</p> <p>Wait for the double-bleep</p>	<p>4</p> <p>Remove your key</p>
<p>5</p> <p>Enter the other combination</p>	<p>6</p> <p>Insert the other key</p>
<p>7</p> <p>Wait for the double-bleep</p>	<p>8</p> <p>Turn the dial</p>

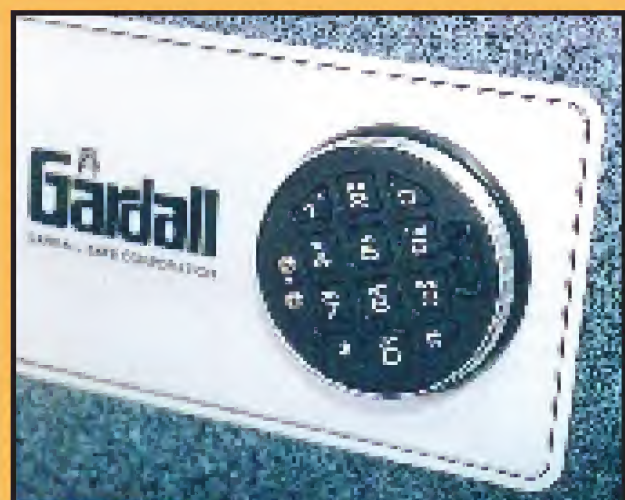
1. Instruction example from the operating instruction booklet provided with the MicroLock.

LaGard and Vindicator, have a good technical relationship which has brought high tech locks to the forefront with the ability to leave an audit trail as with the Vindicator system. The lock in the #10 series and #20 series is a base model LaGard ComboGard lock system with several additional features unique to Vindicator Electronic Combo-Key Lock (Series 10) and the Low Cost ATM Audit Lock (Series 20).

Before discussing programming and combination changing, the best way to learn how to work on this lock is to retrofit one of these units on a safe door and then to play with it. This will NOT be a step by step installation, but a general discussion of the

retrofit with a few notes. The operating directions that come with the lock are clear enough, so I will not repeat them here. (See Figure 1.)

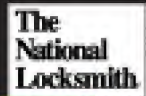
The procedure to mount the lock is straight forward. First, remove the old dial ring and install the new dial ring with the special key slot mounting



2. The Vindicator MicroLock 10 dial keypad assembly being installed.

screws. Before cutting the channel for the spindle and keypad wire, put the dial with the interior dial washer (shown later) on the safe door.





**3. Keypad showing the battery override terminals. A LED is located between the battery terminals.**

*Photograph 2*, shows the dial in the installation position.

The dial is rotated left to the 11:00 o'clock position, pushed over the mounting screws and then turned to the right. The normal arc of opening is through the positions of 12:00 o'clock to the 3:00 o'clock position. When the dial is installed, the channel spindle keeps the dial from turning too far to the left (counter clockwise) so it can not be removed.

A few other characteristics can be seen in *Photograph 2*. First, the battery override terminals are on the left side of the dial keypad next to the #4 and #7 buttons. There is a plastic cut-out on the right side of the keypad. This is a receptacle for the Vindicator MicroKey. The shallow cutout allows the two metal strips to briefly touch the key to validate the combination.

*Photograph 3*, shows a close up of the battery terminal override contact points. Between these 2 points is a (red) Light Emitting Diode. This lights when the individual buttons are pushed and serves as an indicator when programming the lock.

Later, we will see that the Vindicator MicroLocks are mounted on pads that allow the wire to pass and move under the lock. When the dial is turned, the channel that holds the wire is moved when the keypad turns, and thus the wire moves.

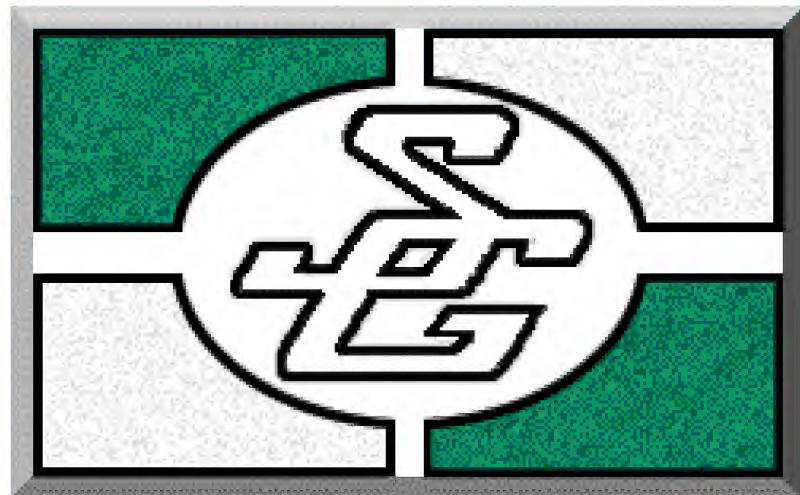
I was wondering if the bolt position was in the same place as other combination locks, so I took a LaGard Swing bolt lock and put it bolt to bolt

to the Vindicator Lock. They matched up perfectly. This is shown in *Photograph 4*. What this means is that the Vindicator Lock will retrofit any normal combination lock application. The lock is universally handed and the retrofit takes between 30 minutes to 1 hour.

Before mounting the dial to the safe door, it is necessary to attach the

dial washer. This rides in the circular cut-out of the dial ring. This washer is indexed with a large and small circular cut-out. There is a slot in the washer to accept the end of the keypad cable plug which easily fits through any 1/4 inch hole, see *Photograph 5*. Once the washer is installed, push and attach the dial to the ring retaining screws by pushing the dial on at 11:00 o'clock and turning it straight to the 12:00 o'clock position.

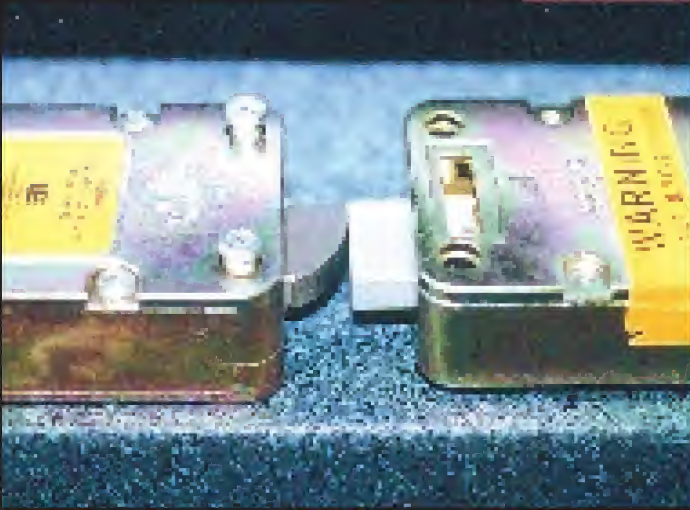
The next part of the installation is the trickiest. A special spindle with a channel cut through it is



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4. Comparison of a swing bolt to the Vindicator MicroLock bolt.

used to connect the safe key pad to the drive cam of the lock. Insert the spindle carefully and route the wire through the channel. Measure the spindle 1/4 to 5/16 inch above the inside surface of the door. Now remove the spindle from the door and cut it accurately, remove any burrs or rough spots, and then reinstall the spindle and remeasure.

Once the spindle is cut, a special washer is put on the end of the spindle. Again, there is a cut-

out for the plug end of the key pad wire, plus there is a relief area on the outside of the washer to accept the wire.

There is also a raised area on this washer that fits around the drive cam on the lock body. One side of the washer is flat and this side fits to the safe door mounting plate. The other side, as seen in *Photograph 6*, is placed as shown. An interesting point is that on most diagrams and exploded



5. Back of keypad with indexed detent washer that fits into cutout of dial ring.

pictures of this lock, this washer is always shown installed upside down. In the installation instructions, it is shown correctly aligned.

This turned out to be the hardest part of the retrofit. The spindle length is critical and the wire must be placed so that it moves freely under the lock body. If the length is too long, the dial will turn very hard when the combination is activated. All that has to be done is to slightly shorten the spindle and again reinstall the lock and try it again.

*Photograph 7*, shows a view of the bottom of the Vindicator MicroLock. Note the three pads that raise the lock body above the mounting plate. Also, the square cut-out opening cam can be seen along with the relief for the special washer that fits on the end of the spindle. Lining up the spindle and the washer so that everything works smooth is the most enigmatic part of the installation.

After mounting the lock with the three mounting screws (1/4 X 20) the battery case must now be mounted. The case holds one 9 volt battery and can be secured to the inside of the door by double sided tape, or by screwing the battery case to the door in an out of the way position. *Photograph 8*, shows the battery case mounted to the left of the Vindicator MicroLock.

On the top of the lock in this vertical down installation, is the battery and dial connector location.



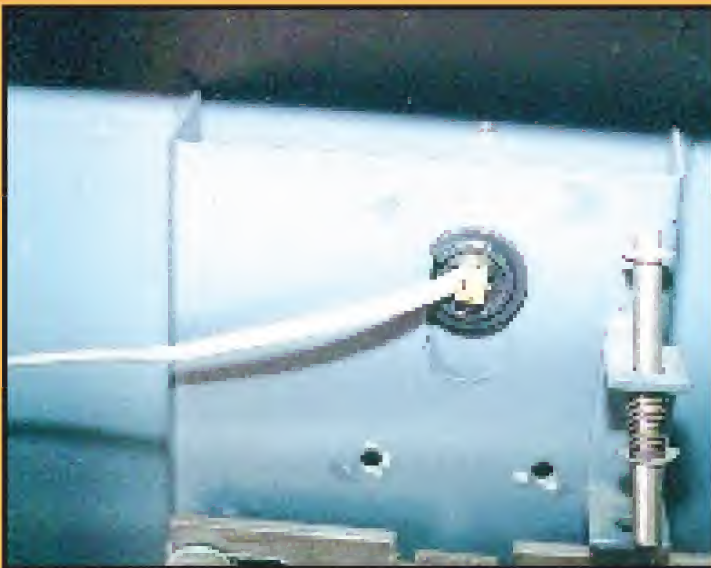
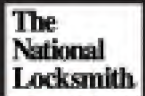
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6. Spindle must be cut to 1/4 inch beyond door mounting surface.

The dial keypad wire connector is attached to the outer most (next to the corner) plug location. The battery connection is on the inside or closest to the center line of the lock.

For purpose of clarity, I did not run and attach the wires for the lock with tie strips and Panduit type wire ties and self stick connectors. I left the wires free so that the movement could be easily seen. In a real retrofit, the wires for both the battery and the keypad would be moved and secured away from all moving parts, bolts, and relockers.

Again, in *Photograph 8*, the lock is in the locked position. The wire is in the 9:00 o'clock position as viewed from the rear of the lock. After the combination is punched in and the MicroKey has been inserted, the dial is rotated to the right and the wire moves to the 7:00 o'clock position. This is easily demonstrated and displayed in *Photograph 9*.

Now that the lock has been successfully installed, let us play with it and see what we can do. To open the lock, enter the correct 6 digit combination and insert the MicroKey. Wait until you hear the double beep. Remove the key from the acceptor slot and turn the dial to the right and the lock will open. This is revealed in *Photograph 10*.

This Vindicator lock incorporates many advanced functions with simplicity. There are two indicators that let you know you are doing things

correctly. This includes the light and the bleep features.

Most of the time, the beeps and blinks (Bleeps) occur at the same time. The light stays on during combination changes.

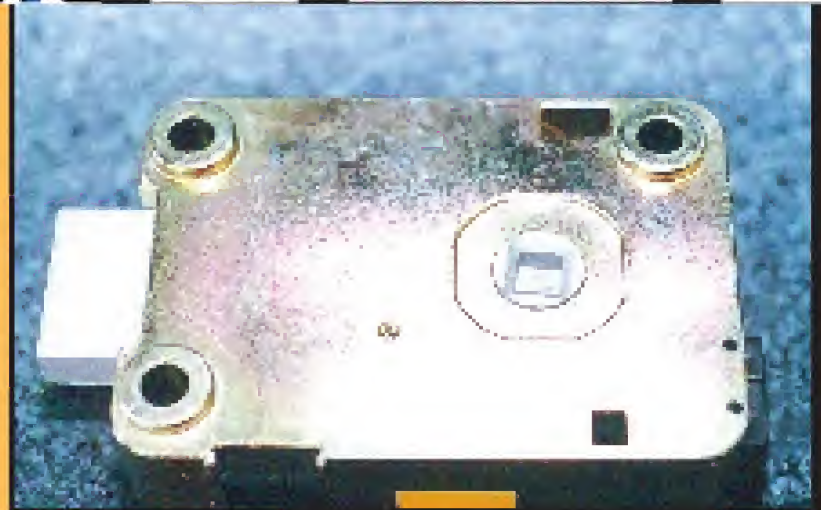
### One-Time Signals

Double Bleeps are good. They mean that you have accomplished what you intended or that you can

now open the lock.

Triple bleeps are bad. They mean that the wrong key or combination was entered, or that something went wrong when you were trying to change a combination.

Single Bleeps happen when you are enrolling a key. This indicates that the lock understood what the last step was, and is ready for the next.



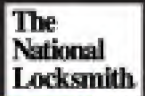
7. Bottom of lock showing three pads to give wire room to turn under mounted lock.



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8. MicroLock in locked position. Note wire at approximately the 9:00 position.



9. When dial is turned, the wire moves to the 7:00 position.



10. Insert key briefly until two beeps are heard. Turn dial and the lock will open.

## Repeated Signals

Single bleep every 7 seconds - A time delay is in effect. You will be able to open the lock later.

Double bleep every seven seconds. Time delay is over and the lock can be opened now.

Triple Bleep every seven seconds - A time penalty is in effect. You can try later. The penalty time out is 5 minutes.

The operating Instructions for these locks are extremely well illustrated with great drawings and line art. They make programming the following functions a breeze:

1. Closing the lock.
2. Opening the lock.
3. Opening a dual custody lock.
4. Opening and overriding a time delay lock.
5. Enrolling manager and user MicroKeys.
6. Changing and deleting combinations.
7. Changing and deleting MicroKeys and their respective combinations.
8. Changing lock digital combinations just to mention a few.

Lets compare the two series of Vindicator locks, the

series 10 and 20. This information is taken from their sophisticated brochures. First, the MicroLock 10:

- Low cost - high security
- Easy to install and operate
- Time delay and hold up alarm is optional.
- User changeable combinations
- Direct replacement for most mechanical locks
- Alarm interface is optional
- Small and large battery boxes available.
- Time delay with override option
- Dual custody (2-user) mode
- Wrong try penalty

## Now, some of the highlights for the MicroLock 20 Series.

In addition to many of the above features listed for the previous lock, also included are the following:

- Dispatching and Route Control
- A complete Audit Trail
- Central Station MicroAudit Software which includes the following:
  - Password Protection and encrypted database
  - Runs on PC with Windows(r)
  - Supports almost unlimited (1,000,000) MicroLocks and users.

The above are some of the advanced features these two locks can accomplish. Now when it comes time to changing a safe combination, we will have to determine if we have a mechanical, electronic, or electro-mechanical lock to work on.

We are going to have to learn to do this guys. Do not be afraid to get involved. It is much easier than the alarm business. It is easy to retrofit locks of this type. Vindicator has a sure winner. Learn and Earn. Soon, when I get to work on these locks in the field and learn a few tricks, it will be time to really OPEN & PROSPER!!!

TRU





# Let's talk about Licensing

## Part 1

by Dee Bucha, CPL

Are you in favor of licensing, or are you against licensing? Whether you're pro or con, here's one viewpoint to ponder.

**I**t's ba-a-a-a-ck. The Texas Locksmith Association hosted a meeting on the subject and attendees were told it's being considered in Louisiana and Alabama. California already has it, as we all know. According to *Keynotes* magazine, it's being written or pushed in several states around the country. In other states, it's a fight to keep it from happening.

Those who favor it are often perceived as those who want to control the craft. Some admit they want to tell locksmiths how much education they need...and on what subjects. Others want a "board" to hear their complaints against competitors. A few would like locksmiths to follow a specific business credo, most notably, their own. Several want to be sure "just anyone" can't "get in." Generally, those who favor want to protect the public from the locksmith. In at least one state, proponents even dictated that locksmiths must own a shop, and how large a shop must be to qualify as a "legitimate" store, therefore, a licensed business establishment.

The opposition tends to be more relaxed. Most trust free enterprise, practice a live and let live ideology, and earnestly believe all necessary controls are in place for the protection of the public...and the craft. Many think the level of education is an

individual choice and is frequently governed by cash on hand. Others say less government is better government and that everyone should have the freedom to form their own business credo. They know that with current laws there is no way to "keep the undesirables out," and trust the workplace will weed out the incompetents and that criminals will be caught. When "control" is called for, this faction simply refuse to help an undesirable until he goes away. They trust the judicial system to handle criminals.

Regardless of where you fall in this summation of opinions, everyone should agree that discussion must take place, and it must take place intelligently and calmly. Even the lightest of controls will call for compromise between both factions.

At this point in time, let me assure readers that my thoughts do not reflect those of *The National Locksmith* or any of its representatives. I represent no person, association or business other than myself, although I will often speak for persons who can't or won't...for various reasons.

### **The trouble with licensing is...**

**...it's so final!** How often do you hear about controls being lifted once they've been established? That's not to say it never happens, but it's exceedingly rare.

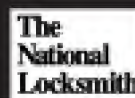
**...it's so complicated!** It is often based on noble ideas and intents. It usually starts simple, then grows as more and "better" controls are put into place. Educational "requirements" proliferate like mushrooms. If certification is involved in the beginning, re-certification will follow in a few short years.

**...it's expensive!** Despite the intent to keep it reasonably priced, as controls grow, so do the costs of implementing and enforcing those controls. There are hidden costs as well. We'll discuss some of those hidden costs.

**...it's divisive.** We saw it almost destroy the association in California. It has, in the past, taken its toll on local associations as well. When one faction "takes control" of the membership, the dissidents are not encouraged to speak, to write articles, to express their feelings. They go away. Associations become smaller, have less power, and a smaller voice. As a person who believes associations are intrinsically important, I find it a form of unintentional sabotage.

**...it's popular.** Everyone is doing it, so why shouldn't we? Or, in the words we most frequently hear, "If we don't license ourselves, someone else will do it for us." These are the words of a defeatist! Often these licenses are written by a person or persons un-known. Most associations





make a very big deal about unsigned articles or letters, but no one dares to ask, "Who wrote this license...and what do they hope to gain through such an action?"

**...it's professionally appealing.** Proponents of licensing often compare locksmiths to doctors and talk about self-regulating bodies. Again, it's noble, compelling, tempting. Yet, if you listen to those who are disenchanted with doctors and their self-regulation, you will discover that charges of cover-ups and protectionism are among the chief complaints. The oath that doctors take as they agree to become healers contains two important components. First, they agree to "do no harm." Second, they promise to use appropriate methods of healing. In short, they swear to avoid making the patient worse and agree to use the least invasive methods available to help a patient heal. The truth is the "crime rate" in this profession is lower than that found in the clergy! Licensing can be considered equivalent to performing a lobotomy for a simple headache, when an aspirin would do.

**...it's unenforceable.** To date we have been unable to control pedophiles, child abusers, rapists, murderers, to name only a few of the more grotesque crimes in our society. We do not have, at the time of this writing, enough prisons to house existing offenders. As a result of laxer treatment of criminals, there are many more on the streets. Do we really believe an already overwhelmed system is ready to deal with people who inadvertently "abuse" a consumer? Can we honestly conclude that licensing will improve our ethics?

**...it's ineffective.** Do yourself a favor. Go have a long talk with someone who is licensed. Ask him or her these questions. Since licensing has taken effect, is it easier to do business? Are you more honest/ethical than you were before? Are you better educated in the areas you want to be better educated in? Is your overhead cheaper? Did you pick up new customers as a result of licensing? Is your business more successful? Have you had fewer complaints about your business habits, and those of your employees? Do you feel more confident in your

ability to serve the public? Has your association membership improved in status? Have the number of incompetents or unqualified been reduced? Did the "infringements" on your craft disappear?

You will probably discover that the answer to most of these questions is no. And if that answer is no, I have to ask you what you can possibly gain through licensing that you don't already have?

So much for opinions. Did I hear

someone say they want specifics? Okay, we'll get specific. But we won't do it this month, due to restraints on time and space. Look for me here next month, and we'll have a look at the reality of licensing, as it presently exists in the State of Texas. We'll talk about how such licensing might change your life...and your method of doing business. In the meantime, let's hear from those of you who may agree...or disagree with my opinions on this subject. That's what freedom of the press is all about... **TNL**



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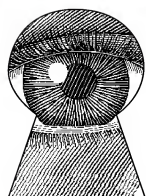
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# THRU THE KEYHOLE



## A Peek at Movers & Shakers in the Industry

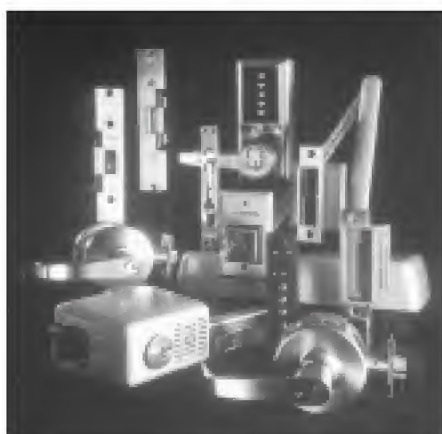
**ATTENTION MANUFACTURERS AND DISTRIBUTORS:** Would you like your company and products to be profiled in *Thru The Keyhole*? Please call Managing Editor, Greg Mango at (708) 837-2044.

### Security Lock Distributors

Security Lock Distributors, recognized as the nation's in depth distributor of life safety and security products, is embarked on an extensive expansion program emphasizing both maximum customer service and maximum product quality.

#### From Modest Beginnings

Locksmithing was where Security's foundation was created. For many years, Security management ran a retail locksmith operation in Boston.



In that environment they gained first hand experience — from the dealer's point of view — and, when they decided to make the transition to distribution, the lessons they learned were applied to the relationships with and services offered retail customers.

#### Select List Concept

The security market is enormous, both from the perspective of size and because of the number of products out there. The average dealer, with limited resources and limited time, cannot be expected to be able to figure out which are the best products to stock, recommend or specify. Recognizing this, Security decided it was to everyone's advantage if they analyzed the various products and then stocked only those which met their standards for performance, price, durability and ease of installation. Product evaluation has become a standard procedure. It's only after rigorous testing by Security specialists that a line goes into the warehouses.

#### In Stock — In Depth — Select Lines

Every product Security stocks is carried in every finish, function and other variation, including all components and accessories. This uncommon depth has even proven of value to some distributors who have urgently needed items they didn't carry to fill orders. Needless to say, this extraordinary capability is of greatest value to dealers who cannot

be put into the position of having goods back-ordered. Among the companies whose products have passed Security's tough tests and are now stocked in depth are: Adams Rite, Arrow, Detex, Folger Adam, HES, Ives, LCN, Locknetics, Securitron, Simplex, and Von Duprin.

#### Technical Advisory Service


It isn't enough these days, believes Security management, to merely take orders. Because of increasingly sophisticated electromechanical and electromagnetic devices being bought for complex and often extensive installations, Security created a Technical Advisory Department. Among its primary functions is finding the solutions to problems dealers have in product selection, application, installation or maintenance. All of the specialists in this group are either electronic engineers or have had extensive hands on experience in the field as installers and/or trouble-shooters.

#### Guaranteed Overnight Delivery plus Additional Services

Security's service centers in Massachusetts and Florida, will deliver orders received before 4:30 PM the next day, or 2nd day at even greater savings. In addition, Security has instituted a state of the art computerized order processing and inventory control system to expedite orders. Also offered is a free 500 page catalog, free phone and fax and e-mail capability.

#### As the Year 2000 Approaches...

Security management believes that to be successful in the years ahead, distributors will have to focus even more extensively on providing service. It will no longer be enough to merely sell a product and forget it. It will be necessary to provide customers with technical information and guidance, quick response to requests, immediate delivery and real follow through — doing what has to be done, when it has to be done. **TRUL**



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# KEY CODES

## Yale Code Series Part 2: 1-1600

### Depths:

1 - .250  
2 - .232  
3 - .214  
4 - .196

### Spacing:

1 - .146  
2 - .286  
3 - .426  
4 - .566

### HPC 1200:

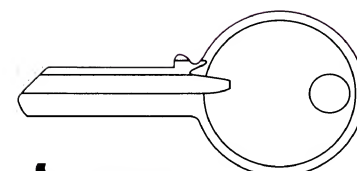
Code Card - C56

### Framon

Block #1  
Spacing: .140  
Starting Cut: .146  
No. of Cuts: 4

### Key Blanks:

Ilco - 997X  
Silca - YA82  
Yale - X10-1/2



PROFILE

801	6655	860	3746	919	5752	978	2636	1037	1566	1096	1576
802	7435	861	4242	920	6336	979	3435	1038	2266	1097	2314
803	7765	862	4446	921	6521	980	3764	1039	2647	1098	2667
804	1344	863	4774	922	6674	981	4464	1040	3242	1099	3252
805	1526	864	5155	923	7455	982	4641	1041	3446	1100	3456
806	2226	865	5744	924	7632	983	5225	1042	3774	1101	3632
807	2434	866	6326	925	1144	984	5433	1043	4474	1102	4321
808	3375	867	6666	926	1363	985	5762	1044	4651	1103	5454
809	3562	868	7447	927	2454	986	6347	1045	5237	1104	5626
810	3736	869	7622	928	2626	987	6533	1046	5444	1105	6367
811	4232	870	7776	929	3425	988	7465	1047	6357	1106	6554
812	4436	871	1135	930	3756	989	7643	1048	6544	1107	7322
813	4765	872	1355	931	4251	990	1154	1049	7475	1108	7663
814	5146	873	1542	932	4456	991	1373	1050	7653	1109	1234
815	5373	874	2242	933	4632	992	2464	1051	1215	1110	1424
816	5734	875	2446	934	5214	993	2641	1052	2447	1111	1525
817	6314	876	3414	935	5423	994	3233	1053	2651	1112	3254
818	6657	877	3573	936	5556	995	3437	1054	3244	1113	3634
819	7447	878	4244	937	5754	996	3766	1055	3622	1114	4323
820	7767	879	4622	938	6341	997	4262	1056	3776	1115	4663
821	1124	880	4776	939	5623	998	4466	1057	4476	1116	5252
822	1347	881	5157	940	6676	999	4643	1058	4653	1117	5456
823	1533	882	5412	941	7457	1000	5231	1059	5242	1118	5632
824	2437	883	5746	942	7634	1001	5435	1060	5446	1119	6556
825	3153	884	6332	943	1146	1002	5764	1061	5774	1120	6732
826	3565	885	6512	944	1365	1003	6351	1062	6546	1121	7324
827	3742	886	7451	945	1552	1004	6535	1063	7311	1122	7665
828	4235	887	7624	946	2252	1005	7467	1064	7477	1123	1426
829	4442	888	1137	947	2456	1006	7645	1065	7655	1124	2433
830	5152	889	1357	948	2632	1007	1156	1066	1224	1125	2663
831	5376	890	1544	949	3431	1008	1375	1067	1413	1126	3256
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836	7443	895	3752	954	5756	1013	3235	1072	3624	1131	5254
837	1126	896	4246	955	6343	1014	3442	1073	4312	1132	5634
838	1351	897	4452	956	6525	1015	4264	1074	4655	1133	6373
839	1535	898	4624	957	7636	1016	4645	1075	5244	1134	6734
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841	2442	900	5554	959	1554	1018	5437	1077	5776	1136	7667
842	3155	901	6334	960	2254	1019	5766	1078	6363	1137	1432
843	3567	902	6514	961	2634	1020	6353	1079	7313	1138	2325
844	3744	903	7453	962	3225	1021	6537	1080	1226	1139	2665
845	4237	904	7626	963	3433	1022	7647	1081	1415	1140	3464
846	7432	905	1142	964	3762	1023	1377	1082	1574	1141	3641
847	5153	906	1546	965	4256	1024	1564	1083	2655	1142	4331
848	5576	907	2246	966	4462	1025	2264	1084	3454	1143	4511
849	5742	908	2452	967	4636	1026	2645	1085	3626	1144	4667
850	6324	909	2642	968	5223	1027	3237	1086	4314	1145	5256
851	6664	910	3214	969	5431	1028	3444	1087	4657	1146	5462
852	7445	911	3423	970	6345	1029	4266	1088	5246	1147	5636
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854	1353	913	3754	972	7463	1031	5235	1090	5624	1149	6562
855	1537	914	4454	973	7641	1032	5442	1091	6365	1150	6736
856	2237	915	4626	974	1152	1033	6355	1092	6552	1151	7332
857	2444	916	5212	975	1556	1034	6542	1093	7315	1152	7512
858	3157	917	5421	976	2256	1035	7473	1094	1343	1153	1434
859	3412	918	5554	977	2462	1036	7651	1095	1422	1154	2511





# Yale Code Series

## Part 2: 1-1600

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1177	5262	1252	3147	1327	4231	1402	3526	1477	5122	1552	2214
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1180	6566	1255	3314	1330	3513	1405	4733	1480	6255	1555	3141
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1183	7521	1258	4534	1333	4547	1408	5677	1483	7746	1558	4221
1184	7675	1259	5312	1334	5331	1409	6245	1484	2155	1559	4425
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1186	2335	1261	6215	1336	5667	1411	6623	1486	3126	1561	5536
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1202	2337	1277	6426	1352	5513	1427	6453	1502	4414	1577	5564
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1216	1237	1291	7355	1366	4366	1441	5113	1516	3134	1591	2522
1217	1445	1292	7542	1367	4553	1442	5346	1517	3362	1592	3563
1218	2342	1293	1252	1368	5335	1443	5532	1518	3547	1593	4623
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1227	6211	1302	4543	1377	1264	1452	2376	1527	7755		
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TNL



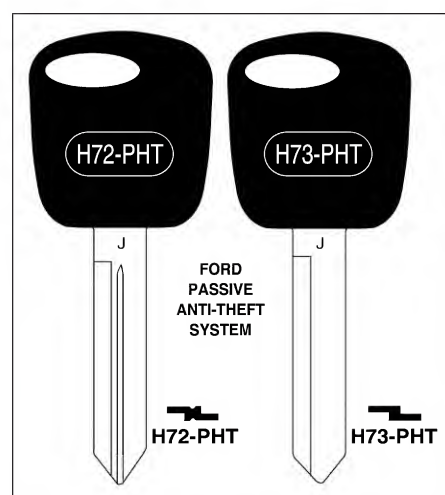
# BUSINESS BRIEFS

## News from the Locksmithing Industry

### New Transponder Key From Jet

Jet Hardware is proud to introduce their Anti-Theft Transponder key for the new 1996 Ford and Mercury automobiles that comes with a cash back offer. Jet's "Key Check and Check" program is offered to locksmiths that may accidentally mis-cut Jet's or any other brand transponder keys. Three new plastic head blanks are now available.

The H73-PHT is used for the 10-cut system. The H72-PHT is used on the more popular 8-cut system. Uniquely, JET's H75-PH was precision engineered and manufactured so that



**New Transponder Key from Jet.**

it is not necessary to file the tip of the blank to work the door and ignition lock properly.

Jet polybags each Transponder key with a standard brass key blank. They are packaged 5 to a box along with 5 return coupon envelopes. Jet recommends that before a locksmith cuts this expensive blank, the brass key be cut first and tried in the lock. This insures that the key machine is accurate. Then, proceed to cut the Transponder blank. If the Transponder key is still mis-cut accidentally, the locksmith may mail the mis-cut Jet blank (or ANY brand

transponder key) back to the Jet factory. Providing the bow and transponder is intact, Jet will mail back a check.

*For more information on Jet's new Transponder keys and their replacement program, please contact your Jet Distributor or write to Jet Hardware Mfg. Corp., 800 Hinsdale Street, Brooklyn, NY 11207*

### Silca Purchases Star Key

Silca Keys U.S.A., Inc. is pleased to announce the acquisition of Star Key Industries, Inc., of New Rochelle, NY. Silca has been operating in it's Ohio factory since opening in the United States in 1989. Star Key Industries, Inc., is a 50 year old company. Under owner Richard Cohen during the last four years, Star has dramatically improved the quality of its key blanks creating artful key head designs and expanding the line of keys. With Silca's resources and technology based key machines, the Star modernization program will be vastly accelerated.

The combination of Silca and Star opens up new markets for both companies. A complete line of foreign and popularly priced domestic keys for both companies will result in even better customer satisfaction.

Richard Cohen, President of Star will continue to operate Star Key Industries, Inc. for Silca and will work in tandem with the Silca management team headed by General Manager John Reynolds.

### Ingersoll-Rand names Richard J. Johannessen, Jr.

Ingersoll-Rand Company has announced the appointment of Richard J. Johannessen, Jr., to the new position of president, Ingersoll-Rand Asia/Pacific. In this capacity, Johannessen will have responsibility for Ingersoll-Rand's overall strategic business development in the Asia/Pacific marketplace. Based in

Hong Kong, he also will manage centralized functions, such as finance, administration and human resources, supporting Ingersoll-Rand group operations in the area.

### Schwab Offers Security Lock Option For All Fire Files

Available now, all Schwab Corp. fire files will include a security lock option to replace the standard key lock. The new security locks, manufactured by Medeco, are labeled UL Class 437 for pick and drill resistance.

Jeff McQueen, Vice President of Marketing of Schwab, noted that, "Security locks for files are becoming an international standard. Schwab certainly wants to provide that option to end users."

Like other Schwab products, the new security locks are covered by Schwab's Lifetime Product Warranty against malfunction of mechanical or operable parts.

*For more information regarding these new security locks, contact Schwab Corp. customer service at (800) 428-7678.*

### Aiphone Introduces Wire Line

Jun Masumoto, Aiphone President, introduces a complete line of factory tested and approved wire, designed for use with Aiphone Intercom Systems. "We often see installation problems that trace back to using the wrong wire. We want to make it easier for dealers to specify the correct wire."

Competitively priced, the wire is available in 250', 500', and 1,000 foot lengths, on reels or Quik-Pull boxes. Surface freight is pre-paid with no additional charge for drop shipping to the job site. A new catalog is now available that designates the approved wire for each Aiphone System.

*For further information call: Stan Kohagen (206) 455-0510.*

TNL



# Reed Report

**W**e are now heavy in our seminar schedule. Watch for us in your area. We'll probably be there.

**T**here is only one way to compete with the merchandisers on security items start selling them yourself. Shop for the best prices and stock your shop. Don't forget impulse items. They are exactly like they're called impulse items. You buy them when you have the impulse. Doesn't matter if you see them in Wal Mart or any other store. Stock them- pick up extra sales.

**I**'m having a hard time finding a locksmith in South Dakota that makes over \$1 M per year. If you did, call me. (904) 476-2799. Don't call me collect. You can afford to pay for the call.

**M**any have asked where they could write me with their technical questions. Just send them to PO Box 15532, Pensacola, FL 32514 or call me at (904) 476-2799. That's a direct line to my office. If I'm not in, you'll get a recorder and I will call you back. Friday and Mondays are bad times to call, Because often they are travel days.

**H**ere are some of the latest questions I've received:

**Q.** I heard that Midas Muffler is installing air bags. What about that?

**A.** Yes, they started in Jacksonville, Florida as a test market, and are now doing it all over the country. I have heard that if someone ( a locksmith ) removes the wheel, it will void the Midas warranty on the air bag. Interesting!!

**Q.** What do you think are the most lucrative fields in Locksmithing?

**A.** 1. Automotive, 2. Electronic, 3. High Security, 4. Safes,

**Q.** I have a padlock with the name "Whale" on its face. What can you tell me about it? I didn't even have a key for it.

**A.** It's a solid brass padlock and I believe it is imported from Hong Kong. Try using an Ilco F44 blank and it should impression fairly easy.

## Scatter Shooting while wondering whatever happened to: Web Sharp?

**Q.** I have a very old Russwin Lock and I can get an Ilco 1012 blank into it. Do you happen to have the spacing & depths?

**A.** Shoulder to center of 1st cut is .375 Cut to cut-.156

0=.315, 1=.295, 2=.275, 3=.255, 4=.235, 5=.215, 6=.195

**Q.** Do you plan to start a new magazine again?

**A.** You've got to be kidding!!!

**Q.** Do GM Rocker picks really work?

**A.** Yes, they do. My grandfather invented them many years ago, and if you have a Reed General Code Book, Vol. 1, look on pages inst-01-021 and 022 and he will tell you how to make your own. They are also available from a few suppliers which usually advertise in the classified section of the magazine.

**Q.** I would like to get into the Jail & Prison lock business. Are there any books on the subject?

**A.** Yes. A very good one is "Jail & Prison Locks," and be sure and get the revised version. I have not seen the book, but I hear from people who know that say it is the best ever. To get the book call (512)362-2500. Jail lock service is a wide open field for the locksmith to earn some good income. **TRIL**



Yours For Better Security,

*Bill Reed*  
Bill Reed

**If you'd like to attend a Bill Reed seminar, choose from the following. For more info, contact Bill directly at (904) 476-2799.**

J une 1	Colo. Sprs., CO	Sept. 5	Philadelphia, PA
J une 8	Baltimore, MD	Sept. 15	Syracuse, NY
J une 22	Detroit, MI	Oct. 13	San Mateo, CA
Aug. 18	Okla. City, OK	Oct. 30,31	San Diego, CA
Aug. 31	Salt Lake City, UT	Nov. 1,2	San Diego, CA



# The LIGHTER Side

Life with Superman.



by  
**Sara  
Probasco**

I should have known the week was going to be interesting when Monday morning's mail brought a lingerie chain letter telling me to send three pairs of lace bikini panties to some guy named Harold.

Ted was on vacation, Neil was home with the flu, Keith was out on a service call, and Don had his hands full curbing-side, trying to open a jammed, over-stuffed trunk on an old Cadillac with no key, so its owners could cross the border into Mexico for the day. Don only thought that job was a problem.

His next call took him to Garner Park, about thirty miles north of us, where a couple from Houston were stranded, without keys, in a Chevy pick-up. Their roadside service company provided us key codes over the phone, so it was simply a matter of cutting the keys and delivering them to the customer. A piece of cake, right?

When Don arrived on the scene, the ignition key cut by the code provided wouldn't work, so Don was forced to remove a Steadfast Collar with a Dremel tool and replace the switch. The job took a lot more time than he'd figured, but the customer was pleased, in the long run.

Don was on his way back to our store when another call came in from the Garner Park/river area. This time, a couple of campers were driving a new company-owned Ford pick-up. They, too, had lost their keys in the river. After receiving my call on his cellular phone, Don cut a U-turn and went back.

When he arrived at the campsite, he asked if they had the key codes written anywhere on the vehicle papers, or if they knew the

name of the dealer where the vehicle had been purchased. Rummaging through the glove box in search of code numbers or a name, Don found among the papers an imprint card bearing the vehicle's key codes. Then he remembered one of our employees saying he had found such a card in his own recently-purchased vehicle.

"Something worth remembering," Don said to himself. He cut the keys,

**"Oh, it's not locked,"  
the guy said. "I just  
put it there to fool car  
thieves. See?"**

they worked, so he collected his fee and came back to the store.

He had scarcely entered the store when another call came from the same river area. This time, someone had lost keys to a Mazda pick-up.

When Don arrived on the scene, the owner wasn't around.

"Oh, he probably called you from San Antonio. After he'd looked all around and couldn't find his keys, he hitched a ride back there, last night," an employee at the country store told him. "He said he'd be back this morning, sometime."

With some misgivings, Don approached the vehicle. Across the steering wheel was clamped a Club anti-theft device. Not knowing if the owner had a key to that, Don decided to work around it in making the ignition key and come back to it later, if need be. Sure enough, just as Don had the ignition key ready, the young man arrived in the car of a friend from San Antonio.

"Do you have a key to the Club?" Don asked him.

"No, it's been lost a long time," the guy admitted.

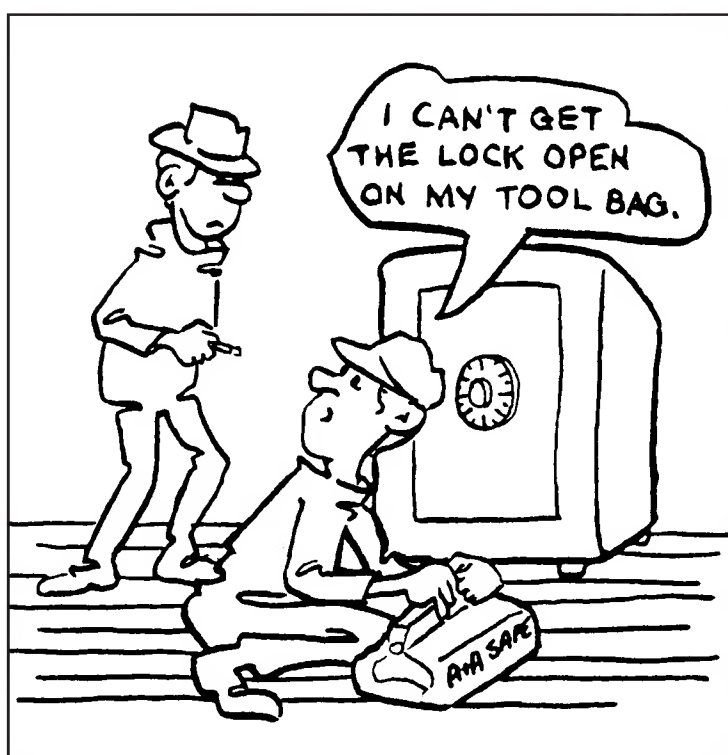
"I don't understand," Don said. "Why would you lock it onto your steering wheel, knowing you didn't have a key to it?"

"Oh, it's not locked," the guy said. "I just put it there to fool car thieves. See?" Reaching into the car, he released the Club and held it up.

"Well I'll be," Don said. "You could have fooled me."

That night at around ten o'clock, Don was telling me all about the events of the day when the phone rang. It was the roadside service company with another call up-river to provide keys by code for a Chevrolet automobile. This time two women had lost their keys in the river and were stranded with six pre-school children.

Don went to the store, cut the keys, and drove up





to deliver them. The door key worked slick as a whistle. The ignition key didn't. Convinced that the code number he had been given for the ignition was incorrect, Don got ready to pull the steering column so he could make a key from scratch. A quick glance told him a Mechanical Anti-Theft System (MATS) was involved, which meant more time and effort than he'd planned on. To make matters worse, the vehicle was parked in an unlighted, wooded area.

**M**uttering a few ritual phrases to himself, Don fumbled around inside the tool kit in the back of his van and extracted the snake-light one of his grandkids had given him for Christmas. He turned it on and looped it casually around his neck.

By that time, the children had grown hyperactive in their delight at being out in the dark woods so late at night. They were running here and there, squealing, yelling, and bumping into one another and everything else in the dark.

"Wow! That's neat." One of the kids grabbing the flexible coil from around Don's neck as she ran past. "Can I play with it?"

"No!" Don replied, snatching the light back and giving it a secure twist around his neck as he stepped into the vehicle.

Two of the children slipped past him into the back seat and began bouncing up and down. "We want the light. We want the light," they chanted loudly. The others ran to join the fun. Slapping their hands on the outside of the car in time to the words, "We want the light," they shouted over and over again.

After Don chased them away, he smiled a wry little smile, wondering how much he could add to his fee for nuisance charges.

**T**he batteries in his snake light were on the verge of death before he finished the job. (Where IS that pink rabbit, when you need him?) He collected his fee. Then, with a sigh of relief and thoughts of his recliner-chair beckoning, he closed the doors of his van. That's when a soft voice cut through the darkness.

"I wonder," the young man said, offering Don an icy-cold can of beer, "would you have time to come over to my campsite and unlock a couple of bicycle locks for me? It's just down the

road a piece. I lost my keys, and the bikes are our only means of transportation."

Don accepted the beer and drove the man to his campsite.

The couple were bicycling their way across the country with backpacks and pup tents. They had secured their bikes before taking a swim, that afternoon, and had lost their keys in the river. Without tools of any kind, they were at a loss as to how to free their bicycles.

The Cryptonite locks required a tubular key. For some reason, Don hadn't brought his tubular picks, so picking them open was out of the question.

"I can cut the locks apart with an angle grinder," Don told them, "but it will destroy the locks."

"That's okay. Do what you have to. We need to be on the road first thing in the morning."

Don had the locks apart in minutes. They offered him another beer. When he declined, the guy reached into his backpack and handed Don a roll of soft, white fabric. "Well, at least take this," he said, smiling.

After Don arrived home and had shared with me his adventures of the

night, he unfurled the gift he had received. It was a white T-shirt with a bold red, blue, and gold Superman emblem emblazoned on the chest.

"Ta-daa!" he trumpeted. "See what the guy with the bicycles gave me?"

"Nice," I said. "But I'm not sure I understand. Does Superman have some special significance?"

"He seemed to feel it was appropriate. After all, he told me, who else but Superman could blast his way through Cryptonite to rescue travelers in distress? He was right," Don added after a moment of reflection. "I deserve it."

**I** rolled my eyes in mock chagrin. Then I thought of the past few days. Don had single-handedly rescued fifteen callers in distress, up-river, in addition to the normal business in-store, all around our town, and in surrounding small towns and rural areas.

I can't truthfully say Don's faster than a speeding bullet, and I've never actually seen him leap tall buildings at a single bound, but who says a guy has to run around changing clothes in a phone booth to be Superman, right?

**TNL**



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# TECHNITIPS

## Helpful hints from fellow locksmiths

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### HOW TO ENTER

Simply send in your tip about how to do any aspect of locksmithing. Certainly, you have a favorite way of doing things that you'd like to share with other locksmiths. Write your tip down and send it to: **Jake Jakubowski**, Technitips Editor, **The National Locksmith**, 1533 Burgundy Parkway, Streamwood, IL 60107 or send your tips via E-mail to the E-mail address posted in the upper right hand corner of this page. So get busy and send in your tips today. You may win cash or merchandise. At the end of the year, we choose winners for many major prizes. Wouldn't you like to be a prize winner in 1996? Enter today! It's easier than you think.

### BEST TIP OF THE MONTH

If your tip is chosen as the best tip of the month, not only do you win the All-Lock A-6200 Auto Service Kit, but you also automatically qualify to win one of the many excellent year end prizes!

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Yes, every tip published wins a prize. If your tip is printed, you'll win \$25 in Locksmith Bucks. You can use these bucks to purchase any books or merchandise from **The National Locksmith**. Plus, be ready for Jake's Grab Bag prizes! Remember, everyone wins. (Please remember to include your complete mailing address - we cannot mail prizes to P.O. Boxes.)



by  
**Jake Jakubowski**

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## These Prizes Awarded Each Month!

- All-Lock A-6200 Auto Service Kit
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- Pro-Lok PK15 Professional Lock Pick Set
- Tech-Train Training Video
- Sieveking Products EZ-Pull GM Wheel Puller
- Major Mfg. Products
- The Sieveking Auto Key Guide

Next month, A.L.O.A. is having its annual convention and trade show in New Orleans, pronounced: "N'awlins." For those of you that have never been to an A.L.O.A. trade show, you really need to try to make arrangements to attend. Not only will you be able to meet sales representatives from some of your favorite manufacturers and distributors, you will be able to see, pick up, examine, and talk about some of the new and exciting products that are making their advent this year. One of the new products you can see is the KeyMark patented key control system from Medeco. Stop by Medeco's booth and tell them I told you to drop by. For a preview of what you'll see, read my article on

the KeyMark in this issue of The National Locksmith.

Another reason to attend, even if you're not a member of A.L.O.A., is that many of the manufacturers like Multi-Lock, Titan, Strattec and others, offer hands-on training classes right at their booths. It's an excellent opportunity for you to increase your knowledge, skills and effectiveness as locksmiths.

There's also the opportunity to spend an interesting week-end in an unbelievable city, Bourbon Street which is an eye-opener. Jackson Square is an architectural delight, and you can find music — especially jazz — and Cajun cookin' like you'll find no-where else ... gar-run-teed!

### All Lock Winner **A Lightning Rod**

Here's a handy lighted plug following gadget I made using a MAG Silhouette flashlight, a 1/2" I.D. copper sweat union and a piece of 1/2" O.D. aluminum tubing about 2-1/4" long.

Force fit the sweat union over the end of the flashlight and if necessary, secure it with some Crazy Glue or epoxy. Insert the aluminum tube in the other end of the sweat union but don't glue it or permanently secure it

in place. You should now have a contraption that looks like the diagram in illustration 1.

You can use the aluminum tubing by itself as a simple plug follower, or you can use the combination as a lighted follower to replace the springs and top pins in any type of standard mortise, rim or key-in-knob cylinder.

To use the lighted follower, turn the light on and insert the follower in from the rear of the cylinder stopping at the number three chamber. Install the spring and top pin and push the





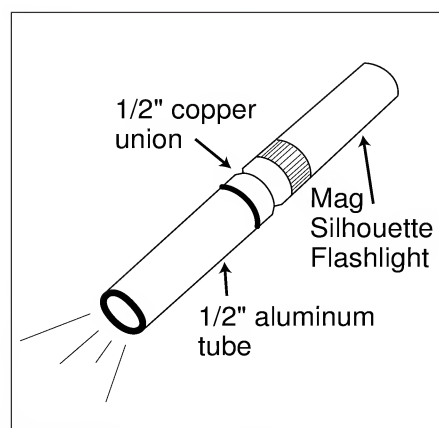
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**Illustration 1.**

follower to the second chamber, etc. When you have the first three chambers pinned, hold the aluminum tube and pull the light and union off.

Now, attach the light and union to the other end of the aluminum tube (the end nearest the front of the cylinder) and push the aluminum tube (or pull) until you can see the number four chamber hole. Insert spring and pin, push the follower to the next chamber and repeat until you have all the top chambers pinned.

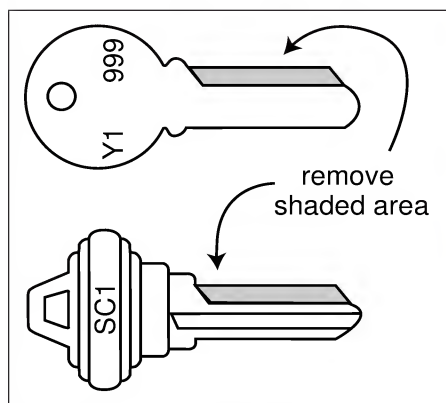
Having the inside of the cylinder lighted certainly makes pinning easier. And, you can make this one for only a few bucks. **Bob Davison,**  
South Dakota

*[Editor's Note: Bob's trick works slick as can be. A lighted follower can be especially helpful to folks like myself who's bifocals don't want to focus properly when looking down the inside of a six or seven pin cylinder and trying to get the top springs and pins into place. I have found that even the MAG Silhouette flashlight by itself can make an effective lighted follower. By using the aluminum tube as Bob did and a fluorescent plastic rod like Don Harmon showed us last year on a different type follower, you don't seem to get as much glare from the light as you do when you use the Silhouette by itself.]*

**American Lock And Supply Winner  
A Turning Solution**

A customer called complaining that the lock on his store-front door seemed to malfunction overnight. It was working fine when he locked up, but he could not get in that morning. I suspected that someone had Super Glued his locks during the night and told him that it might be necessary to drill out the old lock and replace it with a new one.

When I arrived, I found the plug turned 180 degrees from its normal position. Apparently someone had tried to pick the lock during the night and when they rotated the plug to try unlocking the door, the top pins fell into the broaching on the bottom of the plug and trapped the plug in the upside down position.



**Illustration 2.**

Since I have encountered this problem several times in the past, I have Y-1 and SC-1 key blanks prepared as shown in illustration 2. As you can see in the illustration, I have simply cut these blanks down to their lowest depth. That way, they will pass any of the pins without raising them above the shearline.

In this case the cylinder was a Y-1 keyway. I just used my Y-1 "turning tool" by inserting it in the keyway and turning the plug to the proper position. Then, using the customers key, I unlocked the door for him.

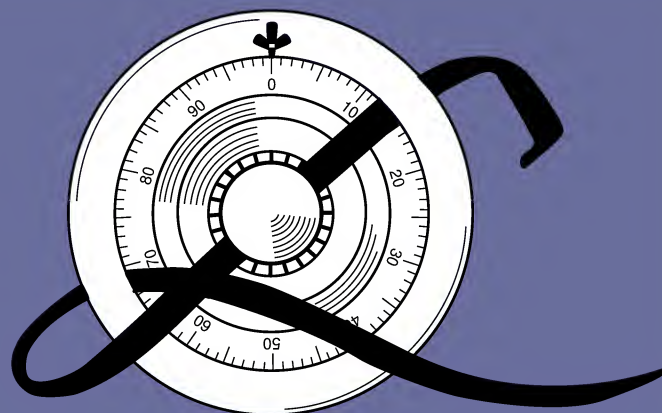
Another way I use my special turning tools is when I have to pick one of these locks open, I pick it to the point where the plug just turns slightly off center, then I insert one of my specially prepared turning tools and continue the rotation to the unlocked position.

Billy D. Jackson  
Texas

#### *HPC Pistol Pick Winner* **The MS Fixture**

Royce Evans sent you a tip on how to make a cylinder holder from a piece of lumber and a long carriage bolt (See *Technitips*, The National Locksmith February, 1996.) I use old Adams Rite MS deadbolts.

If you take an old MS lock and replace the set screw with a longer screw, you can screw in a cylinder and use the set screw to hold it in place while you service it.



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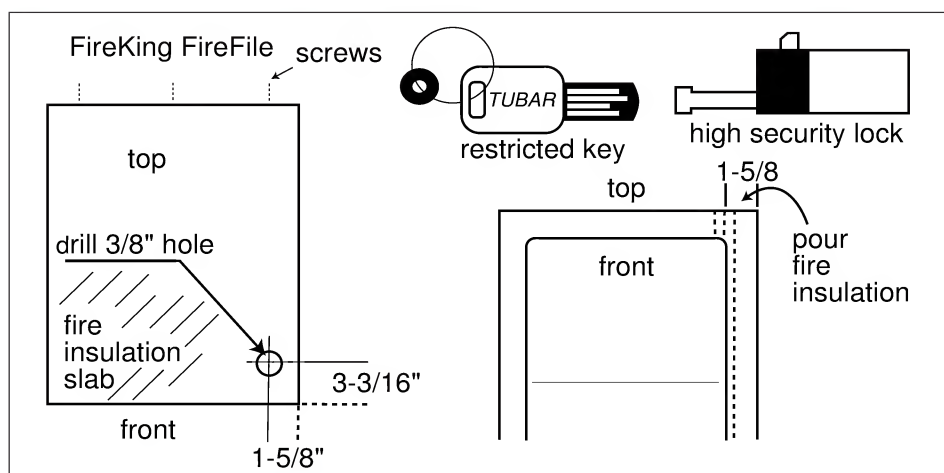
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You can separate the two halves and have two ready-made mortise cylinder jigs. In addition, you can clamp the piece(s) in your bench vise or bend the bottom portion so that it can stand alone. These old MS locks are plentiful and don't really require modification since you can clamp the whole lock in your vise if you want.

Because they hold the cylinders securely without allowing them to move around, you can perform almost any service work you need to without the cylinder getting away from you.

Gonzolo Benavides,  
Texas



**Illustration 3.**

*Sargent & Greenleaf Winner*  
**FireKing Bypass**

I've had several calls where the key to a FireKing fireproof file cabinet have been locked inside the cabinet. These keys are high-security keys and can only be ordered from FireKing if you have the code.

The locks can't be picked and are hardened against attack. Here is a way I have found to open one of these cabinets, retrieve the keys and not damage the fire rating illustration 3.

First remove the three screws in the back of the cabinet that hold the sheet metal top on. Once the cap is removed you will see a slab of insulation material.

As seen in illustration 3, measure 1-5/8" in from the front of the cabinet and 3-3/16" from the right edge. Now drill a 3/8" hole, where the two lines intersect, straight down through the insulation.

Take a 1/4" rod eight to ten inches long, place it in the hole and force the locking rod down which will unlock all the drawers.

The repairs are easy. Put a paper plug in the bottom of the hole and fill the hole with after-market fire insulation material. Replace the metal top and screws when the filler is dry and the job is finished.

William Hudson, RST  
Virginia

*[Editor's Note: William's tip will get you into a FireKing file cabinet. Unfortunately, drilling the insulation material will violate the integrity of the UL rating and if I understand the manufacturer's specs the only way the UL rating could be reinstated on that particular cabinet would be if the repairs were made by a factory authorized rep, using factory specified*

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materials and procedures. Of course, when a customer needs to get into a container that contains vital documents, UL ratings often have to take a back seat to expediency. Besides, William's method allows a repair to be made that will not show when finished. It's fast, clean and neat.]

**Silca Key Blanks Winner  
Honda Key Extraction**

Like many locksmiths, I have to contend with shoe stores, copy centers, convenience stores, etc., which have key cutting machines that are provided by Cole and Access. These "key cutters" often duplicate newer model Honda keys on the short HD-91 Honda blank which results in the customer getting the key hung up in the ignition and unable to push the lock in far enough to get the ignition into the "locked" position so they can remove the key. That brings them to me.

To remove these hung keys, I turn the ignition to the "Off" position, grip the head of the key with a pair of Vise-Grip pliers and gently flex the head of the key back and forth a few times until it breaks off! The key will most generally break off even with the face of the switch. The important thing is that you do not use too much force and pull outward on the key. If you do, there is a possibility of damaging the lock itself. However, just bending the head back and forth will accomplish your goal.

Then all you need to do is push in on the blade of the key, depressing the spring loaded ignition and turn the ignition to the locked position. Now you can extract the blade of the key from the plug and either duplicate that key for the customer, or "read" it and cut a new one by code on the proper blank.

It only takes a few minutes to solve this problem. Other methods could take an hour or more and some even damage the lock. Everett L. Dobbs, California

**Major Manufacturing Winner  
Simple Plug Removal**

I had to generate a first key for a Honda Three Wheeler (ATC 250). At first glance it appeared necessary to remove the switch housing, disassemble it and make the key. However, after doing that, I found that the cylinder's plug retainer can be accessed through the front of the keyway.

Using a hook-pick, I depressed the retainer at the rear of the plug and the plug came right out! If only I had known that earlier! At any rate, from the time you have the plug in your hand, key generation is simple, fast and easy.

On the side of the ignition housing I found what appeared to be a code designation. Unfortunately, it did not show up in my cycle codes.

Larry Kanzer,  
Pennsylvania

[Editor's Note: Larry, often Honda and other cycle manufacturers use a piece of black tape on the side of their black switch housing to inscribe the codes. At best, these codes are difficult to read and frequently hard to get at. I have found it almost as easy to "read" the locks or impression them then to find and decipher the codes. In fact, it's been so long since I used the method you described, I thought cycle manufacturers had stopped using that type of retainer. Thanks for the tip.]

# NATIONAL

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*Sieveking G.M. E-Z Pull  
Wheel Puller Winner*  
**A Magnetic Beginning**

I sometimes have a difficult time starting the horn pad screws on GM autos. The screws need to go through the steering wheel arm in an almost horizontal position and then into the horn pad screw bracket.

To make the job a little easier for myself, I bought an extension type pocket magnet (the kind that telescopes) ground the metal away from the magnetic core and removed the magnet. This little magnet will fit nicely into a 9/32" socket like you would use to remove or tighten these horn pad screws.

To keep the magnet in place, I do the following: Place a 1/4" drive extension in a vice and cover the tip with waxed paper or Saran Wrap. Push the 9/32" socket down on the extension. Now, wedge the magnet at the proper depth (the same depth as the thickness of the head of the screw) and use the thick type of Super Glue (or a liquid epoxy) and glue the magnet into position. Let the glue or epoxy set and then remove the socket from the extension and the waxed paper from the socket and you have a tool that will make starting and driving horn pad screws a lot easier.

You can use the same idea on a 10mm socket for removing those type screws from inside foreign car door

panels and you eliminate the chance of dropping the screw and losing it.

Steve Stanhope,  
Texas

*Pro Lock Professional Pick Set Winner*  
**Reading Door Locks**

I do a lot of automotive locksmithing and have found that I don't have to take the door panels off as many foreign cars as I used to in order to get a code number for the lock.

First, I determine if the cylinder is attached to the door or if it is a modular type. If the lock is on the door, I check to see if the windows are electric or manual. If the window is manual, I roll it down and insert a wedge between the window glass and the outer door skin. Then I use my inspection light to peer inside the door panel. Many times the codes can be seen on the top of the lock cylinder or on the side or tail-piece. If the lock is dirty, I spray WD-40 on the lock to clean it. Occasionally, I have to tape a piece of rag to a long screwdriver and wipe the lock off to see the code numbers.

If the code is not visible on the top or side of the lock, I use an angled inspection mirror to try to locate it. I have even become adept at reading some of the codes backwards.

I have successfully used this idea on Ford Probes, Mazdas, Isuzus and other foreign cars and found it to be a big time-saver.  
Jack Townsley,  
Florida

*[Editor's Note: Thanks for the tip, Jack. I know similar tips have been printed in this column in the past, but like many "simple" tips, it bears repeating if for no other reason than there are new and beginner locksmiths that are not aware of this "old" trick.]*

*Sieveking Auto Keyblanks Cross-  
Reference Winner*

**Shear-Head Solution**

I have tried just about every way there is to remove and replace shear-head bolts on foreign cars to remove the ignitions. What works best for me is to buy a set of six spanner bits (similar to the Un-Do-It tools.) When I encounter a shearhead bolt that needs to be removed, I select the proper size bit, make two marks on the bolt and drill small holes to accept the bit. Now all I have to do is insert the bit and back the bolts out.

I also keep several metric-sized bolts (with the heads cut off) in my

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tool kit for the times that I need to replace a shear-head bolt, since buying regular metric bolts and cutting off the heads is cheaper than buying shearhead bolts. I have pre-drilled the holes for my spanner bits in these bolts.

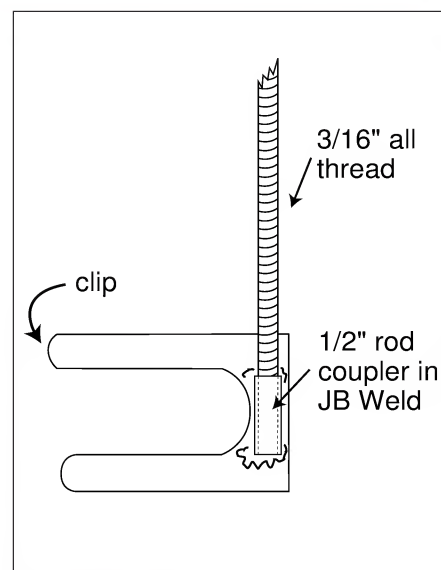
When I replace the housing on the steering column I either reuse the old bolt or one of my own bolts and tighten it down with the correct sized spanner bit. Then I fill the holes with JB Weld or other epoxy.

K.E. Chambers,  
South Carolina

**Tech Train Video Winner  
Clip Remover**

After many skinned knuckles and cut hands from trying to re-install door clips in hard to reach places such as on Camaros, Firebirds and other hard-to-reach door locks, I have made a clip holder that I can use to install them from the outside of the door.

I use a 3/16" rod coupler and saw it in half and epoxy each half to a door clip (*Illustration 4.*) Then I use a length of 3/16" rod with a slight bend in it. By using the rod to guide the clip into position, I can push the clip on the lock with a long bladed screwdriver.



**Illustration 4.**

Just roll the window down and wedge the window away from the outside of the door panel and start the clip on the lock. Once the clip is firmly seated on the lock, unscrew the rod. That's all there is to it!

Bill Eakin, Sr.  
Texas

[Editor's Note: You can also use a pair of 12" long, curved (also straight) needle nose pliers which is available from Snap-On Tools. The same type of needle nose pliers are available at Sears for about \$7. I have used them to pull Camaro clips (from the top of the door, with the window rolled down and wedged) and on BMW's (door panel removed) to pull the Beemer's heavy duty clip that is partially hidden behind a metal box surrounding the lock and linkage, and also to remove and replace clips on thin walled doors like those on Isuzus and others. If you or any of my readers have large hands like mine, or just want to make the job easier, you'll find these long needle nose's just what the doctor ordered.]

**Jake's Grab Bag Winners  
Bellcrank Popping**

I opened my first new Chrysler Mini-van (the one with the sliding doors on both sides) the other night. It had a vertical linkage but part of the window lift mechanism is positioned so that it is nearly impossible to get a hold on the linkage. After wasting considerable time trying to grab the linkage, I used my light to look into the door and could see the latch sitting deeper in the door.

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**Continued from page 126**

The latch assembly is fully exposed and the bellcrank sticks out with a big white plastic clip on it holding the vertical linkage. With a light you can't miss seeing it. Just slip a tool under the bellcrank, pull up and the door's open!

Charles Donnelly,  
New York

**Mortise Removing &  
Plug Following**

I have found that the Jensen, Soft Jaw Pliers (Part #281-910) work very well removing or installing mortise cylinders without scaring the cylinder's scalps.

Also, I have found that the barrel on a quick-change screw driver (with the bit removed, of course) makes an excellent plug follower for those under-sized import deadbolt and mortise locks.

Joe Palovich,  
Nevada

**A Halogen Substitute**

If you own a Jiffy Light or the Pro-Lock AL 4000, and need a replacement

Halogen bulb in a hurry, the Radio Shack #272-1177 Halogen bulb can be used. The Radio Shack bulb is a little loose, but it can be supported by shrink tubing. It also has a slightly larger outside diameter, but for \$2.65,

you can't beat the price and Radio Shack has them in stock.

Marvin Golden,  
Oklahoma



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# TEST DRIVE



**Taking Industry Products for a Spin Around the Block**

## THE CAM HANDLE

Tools, tools, tools. Where would we be without tools, gizmos and gadgets. I don't know about you, but I love tools, especially specialty tools. The right tool at the right time can make all the difference in the world. It not only gets the job done correctly, the right tool will save time and potential accidents to yourself or personal property. That alone can make a tool worth its weight in gold.

This month we'll take a look at one of the simplest tools I've worked with in a long time. Its one of those so simple tools, that you wonder why someone hadn't thought of it before.

**PRODUCT DESCRIPTION:** The Cam Handle manufactured by Ken Holmlund, in Miles City, Montana, is used when installing cam locks. The Cam Handle is a simple aid to help securely tighten cam locks in place.

How tough can that be to tighten a cam lock down right? Now, don't tell me that you haven't installed or replaced a cam lock, held the face of the housing with your fingers and use a pair of channel locks to tighten the one inch nut on the back, only to have the lock housing

turn cockeyed as the nut was being tightened. Then you jam a screwdriver into the housing and force it around to the centering position. Or if your like me, you insert the core and key into the housing, then pull the key out a couple notches to lock the wafers into the housing and use the key as a fulcrum to turn the lock to the center position. All the while you're hoping the wafers don't bend. I know you've done it, we all have at one time or another.

**OPERATION:** The Cam Handle is very easy to use. Simply inset the body of The Cam Handle into the body of the cam lock housing and hold with a screwdriver or round punch. By exerting a turning pressure in the opposite direction of the pressure exerted by turning the nut on the back of the lock, it will securely hold the lock housing in a centerline position as the nut is being tightened. Simple, and it works.

**COMMENTS:** If you install or replace a number of cam locks, this is a tool for you. There's nothing to wear out, no pieces that can break, and no batteries to buy. It should last forever, or darn near.

### SUGGESTIONS:

My only complaint about the tool is that I would have liked the handle to be a part of the tool. That would make it a complete package. It is recommended that you use a screwdriver or round punch as the turning fulcrum. That's OK, but a simple three or four inch long permanent handle (not removable, because it would just get misplaced) of the proper dimensions that is permanently attached would be best.

**CONCLUSION:** Yes, its a simple tool and something you could probably make from pieces of junk you have in a pile laying in a corner somewhere, but why bother. The Cam Handle is so inexpensive, its not worth your time making to save \$12.00. If it is, you don't need this tool, you need more work.

For more information on The Cam Handle, contact: Ken Holmlund at (406) 232-6764 FAX: (406) 232-6061. **TNL**



### DESCRIPTION:

The Cam Handle by Ken Holmlund.

### PRICE:

\$12.00

### COMMENTS:

If you install or replace a number of cam locks, this tool is for you.

### TEST DRIVE RESULTS:

A very simple tool that works. All it needs is a permanent handle.

